# Section 8
# Visual Resources

This section discusses aesthetic resources, visual qualities, scenic vistas and scenic resources, hereafter referred to as "visual resources," and includes an evaluation of both construction actions as well as facility operations. It describes the associated study area, the environmental setting, the significance of potential environmental impacts, and mitigation measures.

The Delta Plan (the Proposed Project) does not propose implementation any particular physical project; rather, it seeks to influence, either through limited policy regulation or through recommendations, other agencies to take certain actions that will lead to achieving the dual goals of Delta ecosystem protection and water supply reliability. Those actions, if taken, could lead to physical changes in the environment. This is discussed in more detail in part 2.1 of Section 2A, Proposed Project and Alternatives, and in Section 2B, Introduction to Resource Sections.

The types of changes that could affect visual resources include the introduction of infrastructure that degrades the visual qualities of a scenic vista or views from a scenic highway. Such infrastructure could include water treatment plants (including ocean water desalination), conveyance facilities (canals, pipelines, siphons, and pumping plants), groundwater wells, levees, and visitor centers in the Delta and Suisun Marsh, the Delta watershed, and areas outside the Delta that use Delta water.

In most cases, design and screening mitigation would minimize effects on visual resources, but not to a less-than-significant level, because blocking views of large trees, unique rock outcroppings, or scenic landscapes cannot be completely avoided. In the Delta and Suisun Marsh, Delta watershed, and areas outside the Delta that use Delta water, actions or projects related to water supply reliability, ecosystem restoration, and recreational facilities would introduce new sources of nighttime lighting through the use of security lighting.

Local effects can be minimized by implementing mitigation measures, but the measures may be less effective in addressing the regionwide effect of increased nighttime light scatter, a phenomenon common in urban areas that is becoming a concern in rural communities located near urban areas. The actions or projects may make a considerable contribution to the cumulative effect of skyglow in the Delta and Delta watershed. Ecosystem restoration and recreational facility actions would enhance visual resources by making the unique visual resources of the Delta more accessible to people, which would be considered a benefit of the Delta Plan.

## 8.1 Study Area

The study area is defined as the geographical area in which the majority of potential impacts are expected to occur. The visual resources study area consists of the Delta and the Suisun Marsh and surrounding areas that contribute to the visual character of the Delta and the Suisun Marsh. As described in Section 2A, Proposed Project and Alternatives, facilities could be constructed, modified, or reoperated in

the Delta, Delta watershed, or areas located outside the Delta that use Delta water. It is unclear where actions would be located. While it is unclear where the Delta Plan and the Delta Plan alternatives will have effects outside the Delta, this section discusses generally the types of visual resources effects that might occur in the Delta watershed and areas outside the Delta that use Delta water.

# 8.2 Regulatory Framework

Appendix D provides an overview of the plans, policies, and regulations relating to the visual resources within the study area.

# 8.3 Environmental Setting

This section addresses visual resources in the Delta and the Suisun Marsh that could be affected by implementing the Delta Plan. Visual resources include physical features that make up the visible landscape, including land, water, vegetation, geological features, and the built environment (e.g., buildings, roadways, bridges, levees, and other structures). This section also addresses visual resources located in the surrounding areas that contribute to the visual character of the Delta and the Suisun Marsh.

## 8.3.1 Major Sources of Information

Maps prepared for and incorporated into this Environmental Impact Report (EIR) were consulted to identify physical features, such as waterways, vegetation, the built environment, scenic highways and scenic vistas that would make up the visual resources of the Delta and Suisun Marsh.

## 8.3.2 Delta and Suisun Marsh

### *8.3.2.1 Major Visual Features*

#### 8.3.2.1.1 Waterways

The Delta watershed contributes to Delta hydrology, which in turn establishes the visual character of the Delta and the Suisun Marsh. As described in Section 3, Water Resources, the Delta geography and use have been modified over the past 150 years. Prior to these modifications, over 26 million acre-feet of water would flow from the Delta watershed through the Delta into San Francisco Bay. Levees were constructed to increase flood capacity and reclaim tideland and marshes. The levees also modified existing river and slough channels and developed new channels to move water supplies from a system of upstream reservoirs in Northern California to Central and Southern California.

To maintain the Delta for flood management and water supply, the area's natural landscapes and waterways have been altered from their natural state, thereby affecting their visual and aesthetic character. Major waterways are the Sacramento, San Joaquin, Mokelumne, and Cosumnes rivers. Sloughs, cuts, and channels connect these major waterways (Figure 8-1). This system is supported by a series of flood control facilities consisting of levees, impoundments, pumping plants, and control gate structures. Larger bodies of water, including Suisun Bay, Grizzly Bay, Honker Bay, and Franks Tract, provide areas of open water edged with wetlands, marshes, and riparian forests. Adjacent upland areas contain grasslands, and nearby coastal foothills provide a scenic backdrop (Figure 8-2). Waterways meander among the Delta islands and are framed by vegetation, including cattails, bulrush, and riparian trees. Although most of the Delta is used for agricultural purposes, extensive marshlands are present in some areas, including the Suisun Marsh.

Figure 8-1
Aerial View of Threemile Slough
*This photograph is an aerial view of Threemile Slough, looking to the south. The San Joaquin River is visible on the left side of the photograph, and a small portion of the Sacramento River is on the right. The foreground view consists of Twitchell Island on the left, Sherman Island in the center, and Brannan Island on the right. Note the low levels of topographic variation, which lend to a general lack of middleground views from the ground. The Sierra Nevada foothills are faintly visible in the background on the left and Mount Diablo is more prominently visible on the right. The portion of Brannan Island shown in the photograph is designated as Brannan Island State Recreation Area (SRA) and provides a good example of a relatively more heavily vegetated island and levee section, with the remaining landscape dominated by agricultural land uses.*
*Source: Photograph taken by EDAW (now AECOM) in 2009*

Figure 8-2
View of Suisun Marsh
*This photograph provides a view from the northern edge of the Suisun Marsh looking toward the Montezuma Hills in the background. The marsh is a type of wetland consisting of areas completely inundated with water (foreground) and upland, vegetated areas (middleground).*
*Source: Photograph taken by AECOM in 2010*


Trees and other vegetation vary from thick, mature forests to relatively bare levee sections that contain scattered trees and other vegetation. Trees found along the banks of the rivers that contribute to the Delta's forest canopy consist primarily of cottonwood, sycamore, and valley oak. The canopy provides a sense of isolation, and screens boaters, anglers, and other viewer groups located on the waterside of the levee system.

#### 8.3.2.1.2 Wetlands

Wetlands contain a variety of vegetation, including grasses, reeds, sedges, and riparian trees. Migratory birds and other wildlife are an essential part of wetlands, contributing to wetlands character and their seasonal changes (Figure 8-3). The Delta and the Suisun Marsh contain numerous public lands (discussed in Section 6, Land Use and Planning). Many of these areas have been restored to historical land use types (i.e., wetlands), which provide habitat supporting the Pacific Flyway, a major migratory route for birds.

Approximately 79,000 acres of the roughly 1.5 million original acres of wetlands remain in the Sacramento Valley, and the Suisun Marsh contains 38,375 acres of managed wetlands that provide food support for migrating and wintering waterfowl. Approximately 60,000 acres of wetlands have been restored since the 1990s (Ducks Unlimited 2011).

Figure 8-3
Yolo Bypass
*This photograph was taken from the Yolo Bypass Wildlife Area and primarily consists of wetlands. Mount Diablo, in the center, and a faint outline of the Coast Ranges, on the left, are visible in the background. The relatively flat topography of the Delta has precluded views of a middleground.*
*Source: Photograph taken by EDAW (now AECOM) in 2005*


#### 8.3.2.1.3 Suisun Marsh

The Suisun Marsh is a large, brackish marsh that contains a series of channels, sloughs, and water control structures. Similar to the Delta, land areas in the Suisun Marsh, including managed seasonal wetlands, are protected from the sloughs and channels with flood control facilities (e.g., levees and salinity control structures). The marsh is used primarily for hunting, bird watching, and other wildlife-related activities. Surrounding lands are used for cattle grazing (northwest, northeast, and Grizzly Island), sheep grazing (southeast), and row crop cultivation (northwest). The Suisun Marsh is surrounded by the Potrero Hills to the north, the Delta to the east, and urban areas to the south and west. It is of relatively low and even elevation, allowing for far-reaching views in and across the landscape (Figure 8-4).

Figure 8-4
Suisun Marsh
*This photograph was taken from the Potrero Hills, looking northwest. Note the cattle-grazing land, Suisun Slough meandering through the marshlands, and the Coast Ranges visible on the horizon. Fairfield and Suisun City edge the Suisun Marsh.*
*Source: Photograph taken by AECOM in 2011*


#### 8.3.2.1.4 Regional Topography

Because most Delta lands are below sea level and surrounded by levees much higher than the surrounding land (Figure 8-5), expansive views of the Central Valley and nearby mountain ranges are provided to motorists and pedestrians. Numerous scenic resources and vistas located outside, but within line-of-sight, of the Delta and the Suisun Marsh frame their visual character. These scenic resources include the Montezuma Hills, the Coast Ranges (and individual mountains highly visible from the Delta, such as Mount Diablo, Mount Tamalpais, and Mount Vaca), San Francisco Bay, and skylines of various cities (including Sacramento and Stockton).

Figure 8-5
Suisun Bay
*This photograph was taken from the Lopes Road vista point off I-680. The Suisun Bay Reserve Fleet is visible in the waterway, and the Potrero Hills are visible in the background.*
*Source: Photograh taken by AECOM in 2011*


### *8.3.2.2 Working Landscapes*

Working landscapes are lands in which human activity occurs over large areas, primarily without buildings or structures, such as agricultural or grazing lands. Working landscapes may contain natural contours, waterways, and other features or may alter these while maintaining a primarily unbuilt visual context. A variety of features may define the visual character of a working landscape. The human perception of a working landscape can be affected by the preservation, transformation, and general purpose or function of prominent features that are most noticeable in the landscape. Working landscapes in the Delta and the Suisun Marsh are generally limited to agricultural lands and associated facilities, wind turbines, roads, and the built environment.

Agriculture consisting of orchards, row crops, and pasturelands is the dominant land use in the Delta. Orchards and row crops are found on large plots and consist of long, horizontal lines that dominate the visual field, creating a uniform form and texture (Figure 8-6). Colors change with the season, as crops emerge in spring with brightly colored, repeated rows of similar height. After autumn and winter harvests, these areas are distinctly bare and seem lifeless, providing far-reaching views of surrounding mountains and the Central Valley. Crop cultivation is generally toward the center of the Delta, where water for irrigation is easily obtained.

Figure 8-6
Aerial View of Agricultural Land
*The photograph shows the confluence of Elk Slough (left) and the Sacramento River (right), looking south. This provides a sense of the various textures and color schemes provided by agricultural land in the Delta. Note the right angles, concentric line series within agricultural plots, and the variation of greens and browns, indicating fields at different production stages.*
*Source: Photograph taken by EDAW (now AECOM) in 2009*


Pastures are located toward the edge of the Delta and are characterized by large areas of grasslands. This type of agricultural use provides broad vistas of apparent undisturbed land. Grazing activities maintain vegetation year-round.

Agricultural lands are most easily viewed from roadways located on the levee system because the roads are at a higher elevation than the surrounding land. Views from agricultural land are generally limited to lands adjacent to the viewer. Middleground views from agricultural lands are typically blocked by levees, and mountains and tall structures are visible in the background.

### *8.3.2.3 Built Environment*

#### 8.3.2.3.1 Recreation Areas

Recreation is critically important to the Delta economy, and the physical spaces in which recreational activities occur are potential visual resources contributing to the character of the Delta. Recreation areas include State Parks, wildlife areas, conservation lands, waterways, and other areas (Figure 8-1). Recreation uses in the Delta and the Suisun Marsh consists of five separate categories, primarily defined by distinct types of users:

- **Waterway-related recreation**: This category includes waterborne recreation and boating using large cruising craft, houseboats, and speedboats; water skiing/wake boarding; sailing; wind surfing; canoeing/kayaking; fishing and hunting from watercraft; and swimming from both beach areas and watercraft. This activity depends on the marinas located throughout the Delta and the Suisun Marsh.

- **Land-based recreation**: The marinas have numerous on-land support facilities, including parking areas, launch ramps, commercial facilities, and camping areas. State and county parks in the Delta and the Suisun Marsh provide similar support facilities. In addition, the parks serve campers, picnickers, and other day users who enjoy being near the water or experiencing the Delta environment. Opportunities for land-based recreation are available at facilities such as Delta Meadows, Franks Tract SRA, and Brannan Island SRA.

- **Wildlife and natural areas**: Numerous wildlife areas are located in the Delta. All either have public access facilities and activities, or there are plans for such. The facilities include interpretive centers, unpaved wildlife viewing roadways, wildlife blinds, canoe launch areas and constructed wetlands, waterfowl basins, and restored natural landscapes. They attract a variety of nature lovers/bird watchers and school groups from surrounding urban areas. Some managed waterfowl hunting also takes place in these areas. Numerous private hunting clubs are also located in the Delta, many of which are co-managed for agricultural use.

- **Delta-as-a-place tourist features**: Many visitors come just to be in the Delta. While there, they paint or take pictures, buy local produce, sample local wines, have lunch or dinner, visit a gift shop or gallery, take a tour, or explore the Delta towns and winding roadways. The Delta is also becoming a favored location for events, including weddings, parties, and weekend getaways to bed-and-breakfast inns or small hotels.

- **Urban edge park and recreation areas**: Many diverse urban park and recreation areas are located along the edge of the Delta and the Suisun Marsh and affect views into and from these areas. They include marinas, stadiums, outdoor concert pavilions, day-use parks, trails, launching ramps, and interpretive centers. In addition, housing areas are located adjacent to Delta waterways.

#### 8.3.2.3.2 Scenic Highways

As discussed in Appendix D, scenic highways are nominated for State designation by cities and counties (Figure 8-7). In the Delta, one officially designated State Scenic Highway, State Route 160 (SR-160), connects Antioch to Sacramento. The following County-designated scenic highways (or corridors and local scenic routes) are located in the Delta and the Suisun Marsh:

- **Contra Costa County**: SR-160, SR-4 Bypass, SR-4, County Road J4, Bethel Island Road, Jersey Island Road, and Walnut Boulevard (Contra Costa County 2005, Figure 5-4).

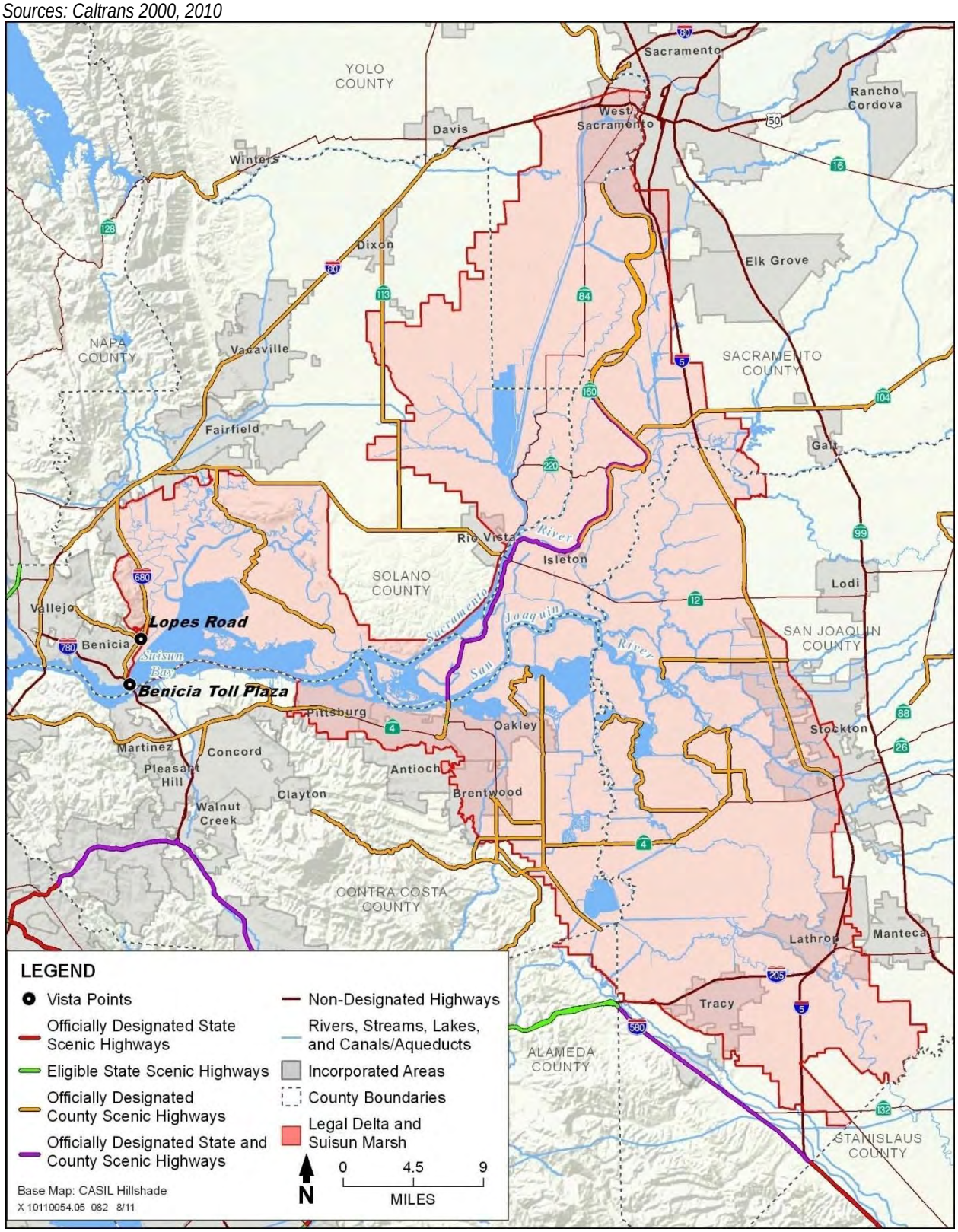
- **Sacramento County**: SR-160, River Road, Isleton Road, and Twin Cities Road (Sacramento County 1974, p. 7).

- **San Joaquin County**: portions of Lower Roberts Island Road, Bacon Island Road, SR-4, SR-12, Eight Mile and Empire Tract Perimeter roads, Inland Drive, McDonald Road, Neugebauer Road, Holt Road, and Interstate 5 (I-5) (San Joaquin County 2009, Table 12-2).

- **Solano County**: I-80, I-680, SR-12, SR-113, Grizzly Island Road, and Lake Herman Road (Solano County 2008, Figure RS-5).

- **Yolo County**: South River Road (Yolo County 2009, Figure LU-3).

Figure 8-7
Scenic Highways and Vista Points
*Sources: Caltrans 2000, 2010*



#### 8.3.2.3.3 Vista Points

Vista points are pullouts along roadways that allow motorists to view scenery. Two vista points are located in the Suisun Marsh, on Lopes Road and at Benicia Toll Plaza (Figure 8-8). The Lopes Road vista point provides a view of the Suisun Bay and subjects north, east, and south of the bay, including the Suisun Bay Reserve Fleet. Far-reaching views include rolling foothills, Mount Diablo, the Benicia-Martinez Bridge, and portions of the Coast Ranges. Views from the Benicia Toll Plaza include Suisun Bay, the Benicia-Martinez Bridge, Martinez Regional Shoreline Park, and the Carquinez Strait.

Figure 8-8
Threemile Slough Bridge
*This view consists of the confluence of Threemile Slough and the Sacramento River, looking west. Note Threemile Slough Bridge, which connects Brannan Island with Sherman Island. On the left side of the photograph, a wind farm is faintly visible west of the Sacramento River, outside of the Delta. The Coast Ranges appear in the background.*
*Source: Photograph taken by AECOM in 2009*


#### 8.3.2.3.4 Urbanized Environments

In general, towns in the central portion of the Delta (e.g., Clarksburg, Isleton, Walnut Grove, and Courtland) are set back behind levees. They have small populations and are developed as compact, organized blocks. Because these communities are surrounded primarily by agricultural lands, the edges of these communities provide far-reaching views of agriculture in the foreground and mountains (e.g., Mount Diablo and Coast Ranges) in the distance. Views in communities are limited to buildings, roadways, and other infrastructure (Figure 8-8).

A variety of structures in the built environment are unique to the Delta. Small communities, such as Isleton, Rio Vista, and Locke, provide points of visual interest and feature historic structures and publicly accessible areas from which to view Delta waterways (Figures 8-9 and 8-10). In addition, numerous drawbridges are located in the Delta, including the Walnut Grove Bridge, Bethel Island Bridge, Old River Bridge, and Rio Vista Bridge.

Larger bridges, including the Benicia-Martinez Bridge and Antioch Bridge, also contribute to the visual nature of gateways into the Delta.

Figure 8-9
View of the Sacramento River from Walnut Grove
*This photograph is taken from SR-160, within the community of Walnut Grove, looking southwest. Portions of the community of Walnut Grove are visible behind the levee located along the far side of the Sacramento River. The tree-lined levee in this section of the Delta provides a good example of the sense of isolation that may be experienced where tree canopies provide screening from the built environment. A series of boat dock and river access points is available along both sides of the river in this segment.*
*Source: Photograph taken by AECOM in 2010*

Figure 8-10
Walnut Grove
*This photograph is taken from County Road East 13, near the Walnut Grove Bridge, looking north. Note the buildings on the right and riparian habitat on the left.*
*Source: Photograph taken by AECOM in 2010*


### *8.3.2.4 Sensitive Viewers*

Viewer sensitivity is a function of several factors, including the following:

- Visibility of the landscape
- Proximity of viewers to the visual resources
- Frequency and duration of views
- Number of viewers
- Types of individuals and groups of viewers
- Viewers' expectations, as influenced by their activity

The viewer's distance from landscape elements plays an important role in determining an area's visual quality. Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer. Generally, the closer a resource is to the viewer, the more dominant and, therefore, the more visually important, it is to the viewer. To account for this, a visual quality assessment method developed by the U.S. Forest Service separates landscapes into foreground, middleground, and

background views. Generally, the foreground is characterized by clear details (within 0.25 or 0.5 mile from the viewer); the middleground is characterized by loss of clear texture in a landscape, which creates a uniform appearance (foreground to 3 to 5 miles in the distance); and the background extends from the middleground to the limit of human sight (U.S. Forest Service 1974, p. 7).

As described above, viewer sensitivity is related to the values and opinions of a particular group and can be generally characterized by the viewer activity, awareness, and local significance of a site.

#### 8.3.2.4.1 Residents

The Delta and the Suisun Marsh communities vary in terms of population and density. Larger cities that border and encroach on the Delta and the Suisun Marsh include Sacramento, Elk Grove, Stockton, Manteca, Antioch, and Fairfield. Midsized cities, such as Oakley, Brentwood, and Rio Vista, are centered near the confluence of the Sacramento and San Joaquin rivers. Smaller towns (e.g., Locke, Isleton, Clarksburg, and Walnut Grove) are heritage communities located along the Sacramento River.

Residents in these communities are potential viewers of visual resources in the Delta and the Suisun Marsh, and views are one of many factors that influence residential location choice. Residents living in the Delta and the Suisun Marsh routinely view the waterways, built environment, and other aspects of the Delta that contribute to its visual character. Residents in surrounding communities view these resources on a less-frequent basis, and potentially from greater distances.

#### 8.3.2.4.2 Workers and Commuters

Agricultural employees and commuters using roadways and rails through and around the Delta are potential viewers of visual resources in the Delta and the Suisun Marsh. Most job opportunities in the interior Delta are related to agriculture (DWR 2011). The proximity of newer development in cities such as Oakley and Brentwood has created bedroom communities for commuters traveling to Sacramento and the Bay Area. Agricultural and other employees in the Delta and the Suisun Marsh routinely view the waterways, built environment, and other aspects of the Delta that contribute to its visual character. Commuters using roadways and rails through and around the Delta view these resources for potentially less time, at greater speeds, and from greater distances.

#### 8.3.2.4.3 Recreationists, Travelers, and Tourists

Although most Delta waterways are considered available for public use, most land in the Delta and the Suisun Marsh is privately owned. As a result, land-based recreation is generally limited to outdoor activities in parks, preserves, and other types of conservation lands (discussed further in Section 18, Recreation). As discussed previously, various types of land-based and water-based recreation occurs in the Delta and the Suisun Marsh. In 1996, the California Department of Parks and Recreation (California State Parks) conducted a boating and fishing survey to determine future development needs of recreation facilities in the Delta. Survey results indicated that approximately 186,000 groups (14,419,162 people) take part in boat-related activities and that 169,200 groups (11,816,928 people) fish in the Delta each year (State Parks 1997, Table 3). Viewers using land, waterways, and the Delta built environment for recreation routinely see these features, which contribute to the Delta's visual character.

## 8.3.3 Delta Watershed

As described in Section 2A, Proposed Project and Alternatives, facilities could be constructed, modified, or reoperated in the Delta watershed, in addition to the Delta. The Delta watershed extends across a broad area encompassing about 28 million acres that covers approximately 27 percent of the land in the state. The patterns of land cover include agriculture, developed areas, natural habitat or open space, and water. The urban and built environment covers about 3 percent of the area of the Delta watershed area.

Terrain in the Sacramento River watershed is diverse and includes the mountainous areas surrounding Shasta Lake, as well as the landscapes of the Central Valley below Keswick Reservoir. Upstream of Keswick Reservoir, slopes are characterized by a mix of pine and oak forests and, to varying degrees, chaparral and rock outcrops. The scenic qualities in the upper reaches of the Sacramento River watershed are generally high, especially in areas where there is limited built environment to intrude on views. The varied topography and geologic formations provide for striking views in the upper watershed. In the lower elevations, the human-built environment becomes more dominant and detracts from views of the natural landscape.

Predominant land cover in the San Joaquin River watershed ranges from high alpine vegetation near the crest of the Sierra Nevada, through coniferous forest, mixed coniferous forest, oak woodlands and oak savanna, and grasslands in the lower elevations. Surface water is present in artificial impoundments, such as Millerton Lake; in small natural lakes and ponds; in rivers; and in tributary streams. The built environment consists of roadways, small communities with low-density development, roadside businesses, diversion dams, powerhouses and associated high-voltage electrical transmission lines, and recreational facilities.

The scenic qualities in the upper reaches of the San Joaquin River watershed are generally high, especially in areas where there is limited built environment to intrude on views. The varied topography and geologic formations of the crest of the Sierra Nevada provide for striking views in the upper watershed. In the lower elevations, the human-built environment becomes more dominant and detracts from views of the natural landscape.

### 8.3.4 Areas Outside the Delta That Use Delta Water

Areas outside the Delta that receive Delta water occupy about 24 million acres and cover approximately 23 percent of the land in the state. Patterns of land cover include agriculture, developed areas, natural habitat or open space, and water in the areas outside the Delta that use Delta water. The areas outside the Delta that use Delta water have proportionally less natural habitat or open space and more agriculture and developed areas than areas in the Delta watershed. Urban and built environments account for approximately 11 percent of the areas outside the Delta that use Delta water, compared to 10 percent within the Delta.

Areas outside the Delta that use Delta water cover the largest population centers in the state, including Los Angeles, San Diego, San Jose, and San Francisco. Unlike the Delta watershed, these areas do not encompass contiguous lands but instead are a combination of separate regions.

The northern areas comprise land in Alameda, Contra Costa, Napa, Sonoma, San Francisco, San Mateo, Santa Cruz, Santa Clara, and Monterey counties. The central areas include land in Fresno, Tulare, and Kings counties. The southern areas include land in every county in the state south of San Luis Obispo and Kern counties, with most of the population in Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Santa Barbara counties. These areas include a wide variety of visual resources that range from conditions described for the Delta to areas with vistas of the Pacific Ocean and areas with vistas of major mountain ranges.

# 8.4 Impacts Analysis of Project and Alternatives

## 8.4.1 Assessment Methods

The Delta Plan alternatives would not directly result in construction or operation of projects or facilities and therefore would result in no direct impacts on visual resources.

The Delta Plan alternatives could encourage the implementation of actions or activities by other agencies to construct and operate facilities or infrastructure described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections. Examples of potential actions that could affect visual resources include land use changes, conversion of agricultural lands, or land fallowing. Projects may include water and wastewater treatment plants; conveyance facilities, including pumping plants; surface water or groundwater storage facilities; ecosystem restoration projects; flood control levees; or recreation facilities. Implementation of these types of actions and construction and operation of these types of facilities could result in changes to the visual character of the places in which they would be located.

The precise magnitude and extent of project-specific impacts on visual resources would depend on the type of action or project being evaluated, its specific location, its total size, and a variety of project- and site-specific factors that are undefined at the time of preparation of this program-level study. Project-specific impacts on visual resources would be addressed in project-specific environmental studies conducted by the lead agency at the time the projects are proposed for implementation.

Analysis of impacts was based on an evaluation of the potential changes to the existing visual or aesthetic resources that would result from project implementation. In making a determination of the extent and implications of the visual changes, consideration was given to:

- Potential changes in the visual composition, character, and specifically valued qualities of the affected environment
- The visual context of the affected environment
- The extent to which the affected environment contained places or features that have been designated in plans and policies for protection or special consideration
- The number of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by project changes
- Viewer sensitivity, which is based on visibility of the landscape, proximity of viewers, frequency and duration of views, number and types of viewers, and viewers' expectations as influenced by their activity (e.g., driving, boating, hiking)

The viewer's distance from landscape elements plays an important role in determining an area's visual quality. Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer. Generally, the closer a resource is to the viewer, the more dominant it appears, and therefore the more visually important it is to the viewer.

This EIR proposes mitigation measures for impacts on visual resource. The ability of these measures to reduce impacts on visual resources to less-than-significant levels depends on project-specific environmental studies; enforceability of these measures depends on whether the project being proposed is a covered action. This is discussed in more detail in Section 8.4.3.6 and in Section 2B, Introduction to Resource Sections.

## 8.4.2 Thresholds of Significance

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, an impact related to visual resources is considered significant if the Proposed Project would do any of the following:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a State scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

Appendix G of the CEQA Guidelines states that a project would have a significant visual effect on the environment if it would "have a substantial, demonstrable, negative aesthetic effect." It should be noted that an assessment of visual quality is a subjective matter, and reasonable people can disagree as to whether a proposed change in the visual environment would be adverse or beneficial. For this analysis, a conservative approach was taken, and the potential for substantial change to visual character is generally considered a significant impact.

The following discussion of environmental impacts is limited to those potential impacts that could result in some level of potentially significant environmental change, as defined by CEQA. As individual projects are proposed, these individual projects will need to be evaluated in site-specific environmental documents prepared by the lead agencies.

## 8.4.3 Proposed Project

### *8.4.3.1 Reliable Water Supply*

As described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to improve water supply reliability by encouraging various actions that, if taken, could lead to completion, construction, and/or operation of projects that could provide a more reliable water supply. Such projects and their features could include the following:

- Surface water projects (water intakes, treatment and conveyance facilities, reservoirs, hydroelectric generation)
- Groundwater projects (wells, wellhead treatment, conveyance facilities)
- Ocean desalination projects (water intakes, brine outfalls, treatment and conveyance facilities)
- Recycled wastewater and stormwater projects (treatment and conveyance facilities)
- Water transfers
- Water use efficiency and conservation program implementation

The number and location of all potential projects that would be implemented are not known at this time. Three possible projects, however, are known to some degree and are named in the Delta Plan: the North of Delta Offstream Storage Investigation (aka Sites Reservoir), Los Vaqueros Reservoir Project (Phase 2), and Upper San Joaquin River Basin Storage Investigation Plan (aka Temperance Flat). Of these three projects, the Los Vaqueros Reservoir Project has undergone project-specific environmental review

(*Los Vaqueros Reservoir Expansion Environmental Impact Statement/Environmental Impact Report* [EIS/EIR]) (Reclamation et al. 2009). California Department of Water Resources (DWR) Bulletin 118 (DWR 2003), which is also named in the Delta Plan, presents a list of 10 recommendations for the management of groundwater but does not result in a specific project the construction or operation of which could affect visual resources; therefore, Bulletin 118 is not discussed further in this section.

#### 8.4.3.1.1 Impact 8-1a: Substantial Degradation of Visual Qualities

*Effects of Project Construction*

The Delta Plan encourages projects that would include the construction and operation of surface water and groundwater storage facilities, water intakes, conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants), groundwater wells, water transfers, and hydroelectric generation. Temporary visual effects from construction would include removal of vegetation and disturbance of soil in facilities footprints and borrow/spoils areas and visibility of construction equipment, including excavation and grading equipment, haul trucks, cement trucks, cranes, and barges. These temporary visual effects would be most pronounced where multistory intake structures would be constructed along the Sacramento River. This construction would be visible from the river and from roads and towns in the vicinity. These construction activities would be substantially larger in scale than routine construction project in the surrounding rural or agricultural landscape; therefore, they are likely to appear more visually prominent. The facilities could be located in the Delta, Delta watershed, or areas outside the Delta that use Delta water, as described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections.

Construction of new or altered water storage projects in the Delta watershed and in areas outside of the Delta that use Delta water could adversely affect scenic vistas and visual character, such as visual disturbance associated with excavation, alteration of natural contours, removal of natural vegetation, and other land disturbing activities. Ongoing construction activity involving heavy equipment, construction workers, and staging areas with temporary buildings and facilities could also affect scenic views from vantage points such as waterways, trails, roadways, and hilltops. Grading, excavation, and construction of improvements could permanently affect these views. Exposure of certain features of the facilities to public view, such as chemical storage tanks and pump equipment, could result in degradation of the visual character or quality of the site.

It is unclear at this time how implementation of the Proposed Project would result in construction activities, including the location, number, and duration of construction activities. However, the Delta Plan encourages at least to some degree implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project (Phase 2), and Upper San Joaquin River Basin Storage Investigation Plan. These are possible new or expanded surface water storage facilities.

The Los Vaqueros Project has undergone project-specific environmental review in an EIS/EIR; the other two projects have not. The Los Vaqueros EIS/EIR provides analogous information about the impacts expected from construction of these two other projects, which are similar to the Los Vaqueros Project. In addition, the project-specific EIR for another surface storage project (not named in the Delta Plan)—the Calaveras Dam Replacement Project—also provides analogous information.

The Los Vaqueros Reservoir Expansion EIS/EIR (Reclamation et al. 2009) evaluated three alternatives to increase water storage, a new Delta intake structure, and conveyance facilities, but the impacts of construction activities on the visual environment were not evaluated. The analysis focused entirely on the impact of the project once built.

In the EIR prepared for the Calaveras Dam Replacement Project (SFPUC 2011), the San Francisco Public Utilities Commission (SFPUC) evaluated the impacts that construction activities would have on the visual environment. It found that although construction would last only 5 years, the impacts on the visual

environment from dam construction would be significant. No feasible mitigation measures were identified, resulting in a determination that construction activities would have a significant and unavoidable impact on visual resources.

Construction of the types of water supply reliability projects listed in Section 8.4.3.1 other than surface water storage (water intakes, pumping plants, pipelines and tunnels, canals, regulating reservoirs, ocean desalination plants, and hydroelectric generation facilities) generally would have impacts on visual resources similar to the impacts on visual resources caused by the construction of surface water storage projects.

Although not named in the Delta Plan, based on a review of their project-specific EIRs, the following projects were determined to be illustrative of the types of construction-related impacts on visual resources associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis et al. 2007), which includes a water intake in the Sacramento River, pumping plants, and conveyance and water treatment facilities; the Huntington Beach Seawater Desalination Project (City of Huntington Beach 2005) and the Carlsbad Precise Development Plan and Desalination Plant Project (City of Carlsbad 2005), all of which illustrate some of the likely impacts of constructing seawater desalination plants; and the Western Municipal Water District (WMWD) Riverside-Corona Feeder Pipeline Project (WMWD and Reclamation 2011), which includes the installation of a 28-mile-long underground pipeline and groundwater treatment, water storage, and pumping facilities.

The City of Davis EIR did not evaluate the effects of construction on the visual environment, nor did the City of Huntington Beach EIR. The City of Carlsbad, on the other hand, considered the removal of vegetation for project staging and construction to be a significant impact.

With the implementation of mitigation, consisting of revegetation after construction, the City of Carlsbad determined that the impact was reduced to a less-than-significant level. WMWD made the same finding as the City of Carlsbad. It found that with the replacement of vegetation removed for installation of the underground pipeline, groundwater treatment facility, and storage tanks, construction-related impacts on visual resources would be reduced to less-than-significant levels. Mitigation measures were required that reduced construction-related impacts on visual resources to a less-than-significant level.

The specific locations of water supply reliability construction projects, the quality of the visual environment, and sensitivity of viewers are not known at this time. Therefore, impacts on the visual environment from constructing water supply reliability projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Operation of the types of projects mentioned in Section 8.4.3.1 could involve constructing storage facilities, ancillary facilities, desalination and treatment plants, and intake structures in the Delta watershed and in areas outside the Delta that use Delta water. Construction of these facilities (such as those considered under DWR's Surface Water Storage Investigation) could potentially cause a substantial alteration of visual qualities in those locations. For example, new reservoirs would permanently flood areas that currently have natural or agricultural land cover. Surface water storage projects in mountainous areas in the Delta watershed are less likely to significantly convert agricultural lands, but could adversely affect forest lands. Ocean desalination plants could significantly impact coastal visual resources.

These projects encouraged by the Delta Plan could also cause permanent landscape-scale changes at the location of new intake facilities, forebay, borrow and spoil sites, and tunnel muck disposal areas. Intake structures would be readily noticeable from distant locations because their height and industrial nature would contrast with the surrounding, largely flat agricultural landscape. Excavation of borrow sites and changes to vegetation cover at spoil sites and tunnel muck disposal areas would also be readily noticeable because of increased contrasts with surrounding landscapes.

Operation of the projects encouraged by the Delta Plan could affect scenic vistas and the visual character of the existing environment. Without replanting of natural vegetation, vegetative screening of constructed facilities, and / or re-contouring of disturbed land to reduce the visual prominence of projects and associated features (e.g., buildings, pump houses, spillways, pipelines, power generation / transmission lines, new service roads, cleared access areas), projects could remain visually prominent in contrast to pre-project conditions. As result, implementation of these projects could permanently alter views, thereby affecting the viewer's perception of the quality of scenic vistas. Additional vehicle traffic related to facility operations could also contribute to the alteration of a scenic vista and viewers' perception of that vista.

Operation of new surface water supply projects and reoperation of existing surface water supply projects could result in significant fluctuations of water levels, leaving exposed barren land at the reservoir's edges when the water level is lowered.

Small storage reservoirs and flood control facilities, modification of existing reservoirs, regulating reservoirs, and groundwater percolation basins that might be constructed to improve water supply reliability throughout the study area could affect scenic vistas and degrade existing visual character in the same manner as larger facilities, but would be less prominent than larger facilities. The extent of impact would also be influenced by the size of the facility footprint, its location relative to viewing populations and scenic vantage points, and the visual prominence of the facility relative to pre-existing conditions.

Other programs intended to improve water supply reliability, such as water conservation, could result in more water remaining in the rivers tributary to the Delta and less water removed from the Delta. This could benefit scenic vistas and the visual character of existing environments to the extent that increased water contributes positively to the visual quality and scenic value of areas affected by these program.

The Los Vaqueros Reservoir Expansion EIS/EIR (Reclamation et al. 2009) evaluated the impacts on the visual environment from a reservoir expansion, pump station, transfer pipeline, transfer facility expansion, inlet/outlet pipes, conveyance pipeline, and power infrastructure. The lead agency found that each of the project elements would result in a weak visual contrast and would not obstruct views. One of the alternatives proposed a borrow site for the creation of additional water storage. The borrow pit resulted in a potentially significant impact, which was reduced to a less-than-significant level with the implementation of mitigation. Mitigation consisted primarily of revegetating the borrow pit.

SFPUC evaluated the permanent impacts on the visual environment from constructing the Calaveras Dam. It found that the Calaveras Dam Replacement project (SFPUC 2011) would result in significant impacts on scenic resources and visual character when viewed from Sunol Wilderness. No feasible mitigation measures were identified, resulting in a determination that the project would have a significant and unavoidable impact on visual resources.

Documents reviewed for potential impacts of project operations on visual resources included EIRs for the Davis-Woodland Water Supply Project (City of Davis et al. 2007), the Huntington Beach Seawater Desalination Project (City of Huntington Beach 2005), the Carlsbad Precise Development Plan and Desalination Plant Project EIR (City of Carlsbad 2005), and the WMWD Riverside-Corona Feeder Pipeline Project (WMWD and Reclamation 2011).

The City of Davis found that the new intake structure in the Sacramento River would result in significant unavoidable impacts on visual resources after mitigation. The cities of Huntington Beach and Carlsbad both found that impacts on the visual environment from new desalination plants would be less than significant with implementation of mitigation, such as design features and landscaping. WMWD made a similar finding and required design features and landscaping to reduce impacts from the new groundwater treatment facility and storage tank to a less-than-significant levels.

*Conclusion*

The specific locations of water supply reliability facilities, the quality of the visual environment, and the sensitivity of viewers are not known at this time. Therefore, impacts on the visual environment from water supply reliability projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because substantial changes to the visual character of landscapes, for example from the implementation of large intake structures and appurtenant facilities, could be considered a degradation from existing conditions, the potential impacts of projects encouraged by the Delta Plan are considered **significant**.

#### 8.4.3.1.2 Impact 8-2a: Adverse Effects on Scenic Vistas and Scenic Resources

*Effects of Project Construction*

SR-160 is designated as part of the State Scenic Highway System. County-designated scenic roads include I-5 ,I-80, I-680, SR-4 Bypass, SR-4, County Road J4, Bethel Island Road, Jersey Island Road, Walnut Boulevard, River Road, Isleton Road, Twin Cities Road, portions of Lower Roberts Island Road, Bacon Island Road, SR-12, Eight Mile and Empire Tract Perimeter roads, Inland Drive, McDonald Road, Neugebauer Road, Holt Road, SR-12, SR-113, Grizzly Island Road, Lake Herman Road, and South River Road (Figure 8-7). The roads and highways were designated because of scenic views of the Sacramento River, historic towns, and surrounding farmland. Construction-related activities at construction sites for surface water and groundwater storage facilities and conveyance facilities (canals, pipelines, tunnels, siphons, and pumping plants) encouraged by the Delta Plan would be visible from designated roads and highways. Scenic views from segments of these roads and highways could be adversely affected during construction periods with the introduction of large equipment, modification of surface features, and alteration of trees and possibly historic buildings.

It is unclear at this time how implementation of the Proposed Project would result in construction activities, including the location, number, and duration of construction activities. However, the Delta Plan encourages at least to some degree implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and Upper San Joaquin River Basin Storage Investigation Plan. The Los Vaqueros Project has undergone project-specific environmental review in an EIS/EIR; the other two projects have not. The Los Vaqueros EIS/EIR provides analogous information about the impacts expected from construction and operation of the two other projects, which are similar to the Los Vaqueros Project. In addition, the project-specific EIR for another surface storage project (not named in the Delta Plan)—the Calaveras Dam Replacement Project—also provides analogous information

The Los Vaqueros Reservoir Expansion EIS/EIR (Reclamation et al. 2009) evaluated three alternatives to increase water storage, a new Delta intake structure, and conveyance facilities, but the impacts of construction activities on views from designated scenic roads and highways were not evaluated. The analysis focused entirely on the impact of the project once built.

In the EIR prepared for the Calaveras Dam Replacement Project (SFPUC 2011), SFPUC evaluated the impacts that construction activities would have on views from designated roads and highways. It found that construction activities would have a less-than-significant impact on views from designated roads and highways. The EIR concluded that construction of any part of the project would not obstruct a view from the scenic highway, construction activities would be temporary, and construction activities would not degrade the visual character of views from designated roads. No mitigation measures were required.

Construction of the types of water supply reliability projects listed in Section 8.4.3.1 other than surface water storage (water intakes, pumping plants, pipelines and tunnels, canals, regulating reservoirs, ocean desalination plants, and hydroelectric generation facilities) generally would have impacts on visual resources similar to the impacts on visual resources caused by the construction of surface water storage projects.

Although not named in the Delta Plan, based on a review of their project-specific EIRs, it was determined that the following projects are illustrative of the types of construction-related impacts on visual resources as seen from designated roads or highways associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis et al. 2007), the Huntington Beach Seawater Desalination Project (City of Huntington Beach 2005), the Carlsbad Precise Development Plan and Desalination Plant Project (City of Carlsbad 2005), and the WMWD Riverside-Corona Feeder Pipeline Project (WMWD and Reclamation 2011).

The City of Davis EIR did not evaluate the effects of construction on the visual environment, nor did the City of Huntington Beach EIR. The City of Carlsbad, on the other hand, considered the removal of vegetation for project staging and construction to be a significant impact on views of the project from Carlsbad Boulevard, a designated Scenic Corridor.

With the implementation of mitigation, revegetation after construction, the City of Carlsbad determined that the impact was reduced to a less-than-significant level. WMWD did not find impacts to visual resources that could be seen from a designated road or highway to be an issue of concern. It evaluated substantial changes to visual character only. See Section 8.4.3.1.1 for its findings.

The specific locations of water supply reliability construction projects, the quality of the views from the designated road or highway, and the sensitivity of viewers using a designated road or highway are not known at this time. Therefore, impacts on the views from designated roads and highways from constructing water supply reliability projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

New water supply facilities encouraged by the Delta Plan could have a permanent adverse effect on these scenic views. Without replanting of natural vegetation, vegetative screening of constructed facilities, and/or re-contouring of disturbed land to reduce the visual prominence of projects and associated features (e.g., buildings, pump houses, spillways, pipelines, power generation / transmission lines, new service roads, cleared access areas), projects could remain visually prominent in contrast to pre-project conditions. If new or modified facilities were of such a height and character that would be readily noticeable to travelers along designated roads or highways, the facilities would be considered intrusive to the existing scenic qualities. Areas that could be used for disposal of construction soils or for borrow materials for reservoirs, or canals could be revegetated to the extent possible; however, evidence of their past use would remain visible for many years and would contribute to this impact. Additional vehicle traffic related to facility operations could also contribute to the alteration of a scenic vista and viewers' perception of that vista.

Construction of large surface water storage reservoirs such as those considered as part of DWR's Surface Water Storage Investigation would occur outside the Delta and could affect the scenic and visual environment in the vicinity of these projects. Inundation of lands with surface water reservoirs could adversely alter scenic vistas, depending on the lands that are inundated and the extent of inundation. Ocean desalination plants could significantly impact coastal scenic vistas and views.

The Los Vaqueros Reservoir Expansion EIS/EIR (Reclamation et al. 2009) evaluated the impacts on views from designated roads or highways from a reservoir expansion, pump station, transfer pipeline, transfer facility expansion, inlet/outlet pipes, conveyance pipeline, and power infrastructure. The lead agency found that none of the project elements would result in a significant impact on views from designated roads or highways. No mitigation was required.

Likewise, SFPUC evaluated the permanent impacts on views from designated roads and highways from the Calaveras Dam Replacement Project. It found that the Calaveras Dam Replacement project (SFPUC 2011) would result in less-than-significant impacts views from designated roads and highways because the visual character would not change substantially from the existing conditions. No mitigation measures were required.

Although not named in the Delta Plan, based on a review of their project-specific EIRs, it was determined that the following projects are illustrative of the types of construction-related impacts on visual resources as seen from designated roads or highways associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis et al. 2007), the Huntington Beach Seawater Desalination Project (City of Huntington Beach 2005), the Carlsbad Precise Development Plan and Desalination Plant Project (City of Carlsbad 2005), and the WMWD Riverside-Corona Feeder Pipeline Project (WMWD and Reclamation 2011).

The City of Davis EIR did not evaluate whether the Davis-Woodland Water Supply Project would have an impact on views from a designated road or highway because no part of the project site is visible from a designated road or highway. The City of Huntington Beach EIR, like the WMWD EIR, did not evaluate impacts to visual resources that could be seen from a designated road or highway. It evaluated substantial changes to visual character only. See Section 8.4.3.1.1 for a discussion of WMWD's findings.

The City of Carlsbad, on the other hand, considered the new desalination plant to have a significant impact on views of the project from Carlsbad Boulevard, a designated Scenic Corridor. With the implementation of mitigation, design features, and landscaping, the City determined that the impact was reduced to a less-than-significant level.

*Conclusion*

The specific locations of water supply reliability facilities, the quality of the views from the designated road or highway, and the sensitivity of viewers using a designated road or highway are not known at this time. Therefore, impacts on the views from designated roads and highways from constructing water supply reliability projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because of the potential effects on views from designated roads or highways including tree removal and changes to historic structures, (e.g., the construction and operation of large intake structures and appurtenant facilities within the sightline of a designated road or highway, the potential impacts of projects encouraged by the Delta Plan are considered **significant**.

#### 8.4.3.1.3 Impact 8-3: New Sources of Substantial Light or Glare

*Effects of Project Construction*

Construction of new water supply reliability projects encouraged by the Delta Plan such as the projects listed in Section 8.4.3.1 could require the ongoing use of nighttime security lighting during facility construction periods. Additional flood lighting likely could occur during construction of such sites to the extent activities extend into nighttime hours. These temporary sources of light would be visible to residents in the vicinity and would be particularly noticeable in rural areas with lower ambient light levels.

It is unclear at this time how implementation of the Proposed Project would result in construction activities, including the location, number, and duration of construction activities. However, the Delta Plan encourages at least to some degree implementation of the North of Delta Offstream Storage Investigation, Los Vaqueros Reservoir Project, and the Upper San Joaquin River Basin Storage Investigation Plan.

The Los Vaqueros Project has undergone project-specific environmental review in an EIS/EIR; the other two projects have not. The Los Vaqueros EIS/EIR provides analogous information about the impacts expected from construction of these two other projects, which are similar to the Los Vaqueros Project. In addition, the project-specific EIR for another surface storage project (not named in the Delta Plan)—the Calaveras Dam Replacement Project—also provides analogous information.

The Los Vaqueros Reservoir Expansion EIS/EIR (Reclamation et al. 2009) evaluated three alternatives to increase water storage, a new Delta intake structure, and conveyance facilities, but the impacts of new sources of light or glare during project construction were not evaluated. The analysis focused entirely on the impact of the project once built.

SFPUC evaluated the impacts that new sources of light or glare from construction activities for the Calaveras Dam Replacement Project EIR. It found that nighttime construction activities associated with project implementation would require nighttime illumination, would result in temporary increases in nighttime light levels perceptible from residences, and may also be perceptible from at least one overnight camping area within Sunol Wilderness. It decided that the increased amount of nighttime light would not be intrusive on residential uses or campers. Therefore the project was determined to have a less-than-significant light and glare impact, and no mitigation measures were required.

Although not named in the Delta Plan, the following projects, based on a review of their project-specific EIRs, are illustrative of the types of construction-related light and glare impacts associated with water supply reliability projects: the Davis-Woodland Water Supply Project (City of Davis et al. 2007), the Huntington Beach Seawater Desalination Project (City of Huntington Beach 2005), the Carlsbad Precise Development Plan and Desalination Plant Project (City of Carlsbad 2005), and the WMWD Riverside-Corona Feeder Pipeline Project (WMWD and Reclamation 2011). None of the lead agencies for the preparation of these EIRs evaluated construction-related light and glare impacts; instead, they focused on the structures once built.

The specific locations of water supply reliability construction projects, the amount of existing ambient night lighting, and the sensitivity of viewers are not known at this time. Therefore, impacts from nighttime lighting during construction of water supply reliability projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

### *Effects of Project Operation*

Implementation of projects encouraged by the Delta Plan could result in the establishment of facilities that would require the use of lighting equipment as part of normal operations and maintenance. In addition, some structures could be as tall as 100 feet, so the use of safety lights would be required to alert low-flying aircraft to their presence.

Lighting equipment associated with future facilities could increase the amount of nighttime lighting above existing ambient light levels. Such a change would be particularly noticeable in rural areas where ambient light levels are currently low. Facilities could also be potential new sources of glare if they were made of materials that easily reflect light.

Projects encouraged by the Delta Plan include storage facilities in the Delta watershed and in areas outside the Delta that use Delta water. Depending on their design and location, these projects could introduce new sources of permanent light and glare.

The Los Vaqueros Reservoir Expansion EIS/EIR (Reclamation et al. 2009) evaluated the impacts of new sources of light or glare from a reservoir expansion, pump station, transfer pipeline, transfer facility expansion, inlet/outlet pipes, conveyance pipeline, and power infrastructure. The lead agency found that the project would not introduce a new source of nighttime lighting. However, there would be an introduction of significant source of daytime glare in the location of new conductors. With the implementation of mitigation, daytime glare impacts were reduced to a less-than-significant level. Mitigation consists of using non-specular conductors.

SFPUC evaluated the significance of new sources of light and glare in the Calaveras Dam Replacement Project EIR. Although construction lighting was considered significant, SFPUC determined that project operations would not introduce a new source of light or glare. No mitigation measures were required.

Documents reviewed for potential light and glare impacts from project operations included EIRs for the Davis-Woodland Water Supply Project (City of Davis et al. 2007), the Huntington Beach Seawater Desalination Project (City of Huntington Beach 2005), the Carlsbad Precise Development Plan and Desalination Plant Project (City of Carlsbad 2005), and the WMWD Riverside-Corona Feeder Pipeline Project (WMWD and Reclamation 2011).

The City of Davis found that the Davis-Woodland Water Supply Project would introduce a significant amount of nighttime lighting. With implementation of feasible mitigation, the nighttime lighting would remain significant and unavoidable. The City of Huntington found that new nighttime lighting for the desalination facility would be significant. With the implementation of mitigation, directing new light sources to avoid spillage, the plant would have less-than-significant light and glare impacts. The City of Carlsbad found that the Carlsbad Precise Development Plan would result in less-than-significant impacts after implementation of mitigation, preparation of a lighting plan that demonstrates the Agua Hediona Lagoon would not be affected by nighttime lighting. As stated before, WMWD did not find light and glare impacts to be an issue of concern.

### *Conclusion*

The specific locations of water supply reliability facilities, the timing of when new light would be introduced (nighttime or daytime construction or operations, such as security lighting), and the sensitivity of viewers (rural residents or urban dwellers) are not known at this time. Therefore, impacts on the views from designated roads and highways from constructing water supply reliability projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

Projects encouraged by the Delta Plan could introduce new sources of light and glare to Delta watershed, Delta, and areas outside the Delta that use Delta water that currently experience low levels of light and glare, e.g., the construction and operation of a large intake structure and appurtenant facilities that requires nighttime lighting and security lighting. This potential impact would be **significant**.

### *8.4.3.2 Delta Ecosystem Restoration*

As described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to improve the Delta ecosystem by encouraging various actions and projects that, if taken, could lead to completion, construction, and/or operation of projects that could improve the Delta ecosystem.

Features of such actions and projects that could be implemented as part of efforts to restore the Delta ecosystem include the following:

- Floodplain restoration
- Riparian restoration
- Tidal marsh restoration
- Ecosystem stressor management (e.g., continuation of ongoing programs managing pesticide runoff, water quality, water flows)
- Invasive species management (including removal of invasive vegetation)

The number and location of all potential projects that would be implemented are not known at this time. The following restoration areas, projects, and programs, however, are known to varying degrees and are named in the Delta Plan:

- Cosumnes River-Mokelumne River Confluence: North Delta Flood Control and Ecosystem Restoration Project
- Suisun Marsh Habitat Management, Preservation, and Restoration Plan (includes Hill Slough Restoration Project)
- Cache Slough Complex (includes Prospect Island Restoration Project)
- Yolo Bypass
- Lower San Joaquin River Bypass Proposal
- Water Quality Control Plan Update for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary (water flow objectives update)
- Delta Conservancy Strategic Plan
- Variance to the U.S. Army Corps of Engineers' (USACE's) Vegetation Policy
- California Department of Fish and Game's Stage Two Actions for Nonnative Invasive Species included in the Ecosystem Restoration Plan for the Sacramento-San Joaquin Bay Delta.

Of these, the North Delta Flood Control and Ecosystem Restoration Project (DWR 2010) and the Suisun Marsh project (Reclamation et al. 2010) have undergone project-specific environmental review.

An update to the San Francisco Bay/Sacramento–San Joaquin Delta Estuary Water Quality Control Plan would establish water flow objectives for establishing the volume, frequency, and duration of Delta water flows. There would be no substantive change to existing visual conditions that would be associated with changes to Delta water flows. A variance to the USACE's Vegetation Policy would result in no impact on visual resources because there would be no changes to how vegetation is currently managed on levees. Because water flows and vegetation maintenance would not be changed when compared with existing conditions, these issues are not discussed further in this section.

#### 8.4.3.2.1 Impact 8-1b: Substantial Degradation of Visual Qualities

*Effects of Project Construction*

Projects encouraged by the Delta Plan would include the construction of ecosystem restoration areas, including floodplain, riparian, and wetland restoration areas, along with management of ecosystem stressors and invasive species, and modification of levees and associated infrastructure as described in Section 2A, Proposed Project and Alternatives.

Construction of the types of ecosystem restoration projects listed in Section 8.4.3.2 would have temporary visual effects. Construction of restoration sites would involve topographic grading, removal or relocation of levee sections, exposure of bare soil, and changes in vegetation that would be visually adverse; however, the construction impacts on the visual landscape of each individual project would be temporary, typically lasting only a few months. The visual effects of this construction would potentially be visible from the river and from roads and towns in the vicinity. These construction activities would be substantially more intense than those in the surrounding rural/agricultural landscape. The facilities would be located in the Delta and Delta watershed.

It is not known at this time exactly what types of restoration projects would be constructed or where construction would occur. However, the Delta Plan encourages and/or mentions implementation of the projects listed in Section 8.4.3.2. There are ongoing projects that are similar to these restoration projects, the environmental evaluation of which would be comparable to some of the actions/activities that would be expected with the encouraged projects. These ongoing projects include the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (a project named in the Delta Plan) and North Delta Flood Control and Ecosystem Restoration Project.

The Suisun Marsh Management, Preservation, and Restoration Plan EIS/EIR (Reclamation et al. 2010) evaluated three alternatives to restore marsh habitat and create managed wetlands in Suisun Marsh. The lead agency evaluated impacts on the visual environment from construction activities for marsh habitat restoration and for managed wetlands creation separately. In both cases, temporary construction activities for habitat restoration and creation were found to have a less-than-significant impact on visual resources given the expectations of viewers. No mitigation measures were required.

The North Delta Flood Control and Ecosystem Restoration Project (DWR2010) involves more construction activities than the Suisun Marsh Management, Preservation, and Restoration Plan. The types of equipment that would be used in these projects include dredges, pile drivers, derrick cranes, scrapers, graders, and tugboats, among others. DWR found that changes in the visual environment related to construction activities would be less than significant because it they would be temporary. No mitigation measures were required.

Generally, construction-related impacts on visual resources for ecosystem restoration projects would be less than construction-related impacts on visual resources from reliable water supply actions. This is because of the generally remote distance of ecosystem projects from viewers and because of viewer expectations of working landscapes. The specific location of construction of ecosystem restoration projects in relation to viewers is not known at this time. Therefore, construction-related impacts on visual resources cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

### *Effects of Project Operation*

Restoration would result in permanent landscape-scale changes in the Delta by introducing habitat types such as tidal marsh, riparian corridors, and grassland to areas that are currently dominated by agricultural fields and, to a lesser extent, urban land uses. The visual characteristics of these new landscapes would be consistent with those characteristics of other areas of the Delta that are in a more natural state. The change would be gradual, occurring over several decades, and the overall effect would be an increase in visual diversity as what are now primarily agricultural areas become interspersed with more natural habitat areas. From most vantage points, this change would not be noticeable because the created habitat would be flat and would tend to blend into the surrounding visual mosaic.

Once construction is completed, restored natural habitats could enhance the visual character of scenic vistas by returning disturbed areas to a more-natural state. However, these projects would permanently alter the visual environment, including agricultural and other working landscapes.

The Suisun Marsh Management, Preservation, and Restoration Plan EIS/EIR (Reclamation et al. 2010) evaluated changes in views to and from Suisun Marsh for marsh restoration and managed wetlands creation. The lead agency determined that project elements associated with marsh restoration would be discernable only to those viewers who have an acute visual reference of the marsh and that most people would not be able to detect a change between past and present features. Marsh restoration was found to have a less-than-significant impact on visual resources, and no mitigation measures were required. Likewise, created managed wetlands were found to have a less-than-significant impact on visual resources because the landscape would appear to be part of the existing landscape. No mitigation measures were required.

The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) evaluated permanent changes in the viewshed for riverine and seasonal floodplain changes, seasonal floodplain enhance and subsidence reversal, detention basins, and dredging and levee modification. In each case, the lead agency found that the alternative would result in more vegetation of the same types of vegetation as existing conditions. Because the visual character of the alternatives would be the same as the existing visual character, the impact was determined to be less than significant, and no mitigation was required.

### *Conclusion*

The specific locations of ecosystem restoration activities, the quality of the visual environment, and the sensitivity of viewers are not known at this time. Therefore, impacts on the visual environment from ecosystem restoration projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because temporary construction-related impacts could occur—for example when many pieces of large construction equipment operate in a natural landscape that has scenic values—the potential impacts of projects encouraged by the Delta Plan are considered **significant**. Long-term operations of Delta ecosystem restoration actions would have a **less-than-significant** impact because these restored areas would be maintained as open space and habitat that would not be considered a degradation of visual qualities.

#### 8.4.3.2.2 Impact 8-2b: Adverse Effects on Scenic Vistas and Scenic Resources

*Effects of Project Construction*

SR-160 is designated as part of the State Scenic Highway System. County-designated scenic roads include I-5 ,I-80, I-680, SR-4 Bypass, SR-4, County Road J4, Bethel Island Road, Jersey Island Road, Walnut Boulevard, River Road, Isleton Road, Twin Cities Road, portions of Lower Roberts Island Road, Bacon Island Road, SR-12, Eight Mile and Empire Tract Perimeter roads, Inland Drive, McDonald Road, Neugebauer Road, Holt Road, SR-113, Grizzly Island Road, Lake Herman Road, and South River Road (Figure 8-7). The roads and highways were designated because of scenic views of the Sacramento River, historic towns, and surrounding farmland. Construction-related activities at construction sites for ecosystem restoration areas would be visible from designated roads and highways. Scenic views from segments of these roads and highways could be adversely affected during construction periods.

Some ecosystem restoration areas in the Delta could potentially be visible in the vicinity of Clarksburg, Hood, and Walnut Grove. Construction of restoration sites would involve topographic grading, removal or relocation of levee sections, exposure of bare soil, and changes in vegetation that would be visually adverse; however, the construction impacts on the visual landscape of each individual project would be temporary, typically lasting only a few months.

It is unclear at this time exactly how implementation of the Proposed Project would result in construction activities, including the location, number, and duration of construction activities. However, the Delta Plan encourages and/or mentions implementation of the projects listed in Section 8.4.3.2. There are ongoing projects that are similar to these restoration projects, the environmental evaluation of which would be comparable to some of the actions/activities that would be expected with the encouraged projects. These ongoing projects include the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (a project named in the Delta Plan) and North Delta Flood Control and Ecosystem Restoration Project.

The Suisun Marsh Management, Preservation, and Restoration Plan EIS/EIR (Reclamation et al. 2010) evaluated damage to scenic resources along a scenic highway. No impact was found for either marsh restoration or managed wetlands creation because neither would damage trees, rock outcroppings, or historic buildings. The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) did not find impacts of construction activities on scenic resources visible from a scenic highway to be an issue of concern.

Generally, construction-related impacts on scenic resources that are visible from a scenic road or highway would be less for ecosystem restoration projects than for reliable water supply actions because reliable water supply projects involve the use of more construction equipment for longer periods. The specific location of construction of ecosystem restoration projects encouraged by the Delta Plan is not known at this time, however. Therefore, construction-related impacts on scenic resources visible from a scenic highway cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Potential restoration areas located in the vicinity of designated scenic roads and highways already include substantial natural and restored habitat. Additional restoration projects in this area would not substantially alter these existing scenic views. Therefore, after construction is completed, ecosystem restoration would not adversely affect scenic views and would not significantly contribute to this impact.

As with construction activities described above, the Suisun Marsh Management, Preservation, and Restoration Plan EIS/EIR (Reclamation et al. 2010) evaluated damage to scenic resources along a scenic highway. No impact was found for either marsh restoration or managed wetlands creation because neither would damage trees, rock outcroppings, or historic buildings. The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) did not find impacts on scenic resources visible from a scenic highway to be an issue of concern.

Impacts on views from designated roads or highways in the Delta and Delta watershed are expected to be similar to these two examples. In most cases, the effects on views from designated roads and highways would not be significant. The location of ecosystem restoration activities and their relation to designated roads and highways are not known at this time. Therefore, impacts on the views from designated roads and highways from ecosystem restoration projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because temporary construction-related impacts could occur—for example, many pieces of large construction equipment operating in a natural landscape that can be seen from designated roads and highways—the potential impacts of projects encouraged by the Delta Plan are considered **significant**. Operation of Delta ecosystem restoration actions would have **less-than-significant** impacts because restored areas visible from a designated road or highway would be similar to natural landscape features.

#### 8.4.3.2.3 Impact 8-3b: New Sources of Substantial Light or Glare

*Effects of Project Construction*

Construction of some ecosystem restoration projects encouraged by the Delta Plan could require the ongoing use of nighttime security lighting during their construction periods. To the extent activities extend into nighttime hours, additional flood lighting could also occur during construction.

It is not known at this time what types of restoration projects would be constructed and where construction would occur. However, the Delta Plan encourages implementation of the projects listed in Section 8.4.3.2. These are ongoing projects that are similar to these restoration projects, the environmental evaluation of which would be comparable to some of the actions/activities that would be expected with the encouraged projects. These ongoing projects include the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (a project named in the Delta Plan) and North Delta Flood Control and Ecosystem Restoration Project.

The Suisun Marsh Management, Preservation, and Restoration Plan EIS/EIR (Reclamation et al. 2010) evaluated the significance of new sources of light and glare during construction. Portable lighting and maintenance vehicles may need to operate at night. Given the remoteness of the restoration sites from viewers, impacts related to night lighting were found to be less than significant. No mitigation measures were required because the lead agency was committed to limiting fugitive light through the installation of temporary visual barriers.

The North Delta Flood Control and Ecosystem Restoration Project (DWR 2010) involves more construction activities than the Suisun Marsh Management, Preservation, and Restoration Plan. DWR did not find the introduction of light and glare during construction to be an issue of concern.

*Effects of Project Operation*

Ecosystem restoration projects that are encouraged by the Proposed Project would not be expected to require or produce light once construction activities are complete. Ecosystem restoration could include a small number of structures for equipment storage and maintenance that could reflect sunlight, which could introduce new sources of glare.

The Suisun Marsh Management, Preservation, and Restoration Plan EIS/EIR (Reclamation et al. 2010) evaluated the significance of new sources of light and glare and found that new sources of glare would result from the increased surface water area. This was considered to be a negligible addition to the existing glare. The EIS/EIR noted that new buildings at that location could result in created glare from windows and the use of inappropriate building materials. The lead agency determined that there would be a less-than-significant impact due to the introduction of glare by committing to design buildings that would blend in with the environment. No additional mitigation measures were required. The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) did not find the introduction of light and glare to be an issue of concern.

Impacts from the introduction of new sources of light and glare in the Delta and Delta watershed are expected to be similar to these two examples. In most cases, the effects would not be significant. The location of ecosystem restoration activities are not known at this time. Therefore, impacts from the introduction of light and glare from ecosystem restoration projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Ecosystem restoration projects encouraged by the Delta Plan could temporarily introduce new sources of light and glare to the Delta during construction activities if those activities extended into the nighttime hours. In addition, a small number of new structures could introduce reflective materials used on permanent outbuildings, including in areas that currently experience low levels of light and glare. This potential impact would be temporary but significant. Long-term impacts from low levels of light and glare due to new structures would be **significant** but likely could be mitigated to a less-than-significant level through implementation of standard mitigation measures.

### *8.4.3.3 Water Quality Improvement*

As described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to improve water quality by encouraging various actions and projects that, if taken, could lead to completion, construction, and/or operation of projects that could improve water quality.

Features of such actions and projects that could be implemented as part of efforts to improve water quality include the following:

- Water treatment plants
- Conveyance facilities (pipelines, pumping plants)
- Wastewater treatment and recycle facilities
- Municipal stormwater treatment facilities
- Agricultural runoff treatment (eliminate, capture and treat/use)
- Wellhead treatment facilities
- Wells (withdrawal, recharge, and monitoring)

The number and location of all potential actions and projects that would be implemented are not known at this time. Various projects, however, are known to varying degrees and are named in the Delta Plan:

- North Bay Aqueduct Alternative Intake Project
- Central Valley Drinking Water Policy
- Central Valley Pesticide Total Maximum Daily Load and Basin Plan Amendment for diazinon and chlorpyrifos (regulatory processes, research, and monitoring)
- Central Valley Pesticide Total Maximum Daily Load and Basin Plan Amendment for pyrethroids (regulatory processes, research, and monitoring)
- Total Maximum Daily Load and Basin Plan Amendments for selenium and methylmercury (regulatory processes, research, and monitoring)
- Water Quality Control Plan Update for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary (water flow objectives update)
- State Water Resources Control Board/Central Valley Regional Water Quality Control Board Strategic Workplan
- Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS)

Of these named projects/actions, only the North Bay Aqueduct Project and the CV-SALTS effort would involve construction and/or operation of facilities that could have impacts on visual resources. The remaining six are programs, policies, or studies that would not result in a specific project, the construction or operation of which could have an impact on visual resources; therefore, these programs, policies, and studies are not discussed further in this section.

#### 8.4.3.3.1 Impact 8-1c: Substantial Degradation of Visual Qualities

*Effects of Project Construction*

Water quality improvement projects encouraged by the Delta Plan would include new and expanded treatment plants and conveyance facilities (pipelines and pumping plants). Temporary visual effects from construction of these facilities would be similar to those described in Section 8.4.3.1.1 for reliable water supply projects encouraged by the Delta Plan. Water quality improvement facilities could be located in the Delta or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project and the CV-SALTS effort. CV-SALTS would result in the construction of new wastewater treatment facilities. The new North Bay Alternative Intake Structure serves the purpose of meeting CV-SALTS and water discharge requirements. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County, and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The diversion/intake structure and water conveyance pipelines that would be encouraged by the Delta Plan are similar to those associated with the Davis-Woodland Water Supply Project, which is not named in the Delta Plan but provides analogous information.

The Davis-Woodland Water Supply Project EIR (City of Davis et al. 2007) did not find impacts on the visual environment from construction activities to be an issue of concern. The EIS/EIR for the Grassland Bypass Project (Reclamation and San Luis & Delta-Mendota Water Authority 2008) also was reviewed for a discussion of potential analogous impacts, but that EIS/EIR did not evaluate the impacts on the visual environment from construction activities.

The specific locations of water quality improvement projects, the length of construction, the visibility of construction, and the sensitivity of viewers' expectations are not known at this time. Therefore, construction-related impacts on visual resources from water quality improvement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operations*

Operational impacts for water quality improvement projects encouraged by the Delta Plan would be similar to those described in Section 8.4.3.1.1 for reliable water supply projects.

The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project and the CV-SALTS effort. CV-SALTS would result in the construction of new wastewater treatment facilities. The new North Bay Alternative Intake Structure serves the purpose of meeting CV-SALTS and water discharge requirements. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County, and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The intake structure and water conveyance pipelines that would be encouraged by the Delta Plan are similar to those associated with the Davis-Woodland Water Supply Project, which is not named in the Delta Plan but provides analogous information.

The Davis-Woodland Water Supply Project EIR (City of Davis et al. 2007) evaluated impacts on the visual environment from a new diversion/intake on the Sacramento River and water treatment plant, water storage tanks, and operations and transfers. The lead agency found that there would be significant impacts on the visual environment from the new diversion/intake structure, water treatment plant, and storage tanks. Mitigation measures, including facility design features and landscaping, were required. With implementation of mitigation measures, the water treatment plant and water storage tanks were found to have less-than-significant impacts on the visual environment, whereas the impacts of the diversion/intake structure could not be mitigated to a less-than-significant level.

The EIS/EIR for the Grassland Bypass Project (Reclamation and San Luis & Delta-Mendota Water Authority 2008) was reviewed for a discussion of potential analogous impacts. The Grassland Bypass EIS/EIR did not find impacts on the visual environment to be an issue of concern.

Impacts on the visual environment in the Delta, Delta watershed, or areas outside the Delta that use Delta water are expected to be similar to these examples. The specific locations of water quality improvement projects, the visibility of the facility, and the sensitivity of viewers' expectations are not known at this time. Therefore, impacts on the visual environment from water quality improvement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because substantial changes to the visual character of landscapes, e.g., the construction and operation of water and wastewater treatment plants and appurtenant facilities, could be considered a degradation from existing conditions, the potential impacts of implementation of future projects are considered **significant**.

#### 8.4.3.3.2 Impact 8-2c: Adverse Effects on Scenic Vistas and Scenic Resources

*Effects of Project Construction*

Water quality improvement projects encouraged by the Delta Plan would include new and expanded treatment plants and conveyance facilities (pipelines and pumping plants). Temporary effects on scenic vistas and resources from construction of these facilities would be similar to those described in Section 8.4.3.1.2 for reliable water supply projects encouraged by the Delta Plan. Water quality improvement facilities could be located in the Delta or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project and the CV-SALTS effort. CV-SALTS would result in the construction of new wastewater treatment facilities. The new North Bay Alternative Intake Structure serves the purpose of meeting CV-SALTS and water discharge requirements. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County, and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The diversion/intake structure and water conveyance pipeline are similar to those associated with the Davis-Woodland Water Supply Project, which is not named in the Delta Plan but provides analogous information.

The Davis-Woodland Water Supply Project EIR (City of Davis et al. 2007) did not find impacts on the scenic resources that are visible from designated roads or highways from construction activities to be an issue of concern. The EIS/EIR for the Grassland Bypass Project (Reclamation and San Luis & Delta-Mendota Water Authority 2008) also was reviewed for a discussion of potential analogous impacts, but that EIS/EIR did not evaluate the impacts to scenic resources that are visible to a designated road or highway.

The specific locations of water quality improvement projects and their visibility from a designated road or highway are not known at this time. Therefore, construction-related impacts on scenic resources that are visible from a designated road or highway from water quality improvement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operations*

Operational impacts for water quality improvement projects encouraged by the Delta Plan would be similar to those described in Section 8.4.3.1.2 for reliable water supply projects.

No part of the Davis-Woodland Water Supply Project is visible from a designated road or highway. The Carlsbad Precise Development Plan and Desalination Plant Project EIR (City of Carlsbad 2005) and the Grassland Bypass Project EIS/EIR (Reclamation and San Luis & Delta-Mendota Water Authority 2008) did not evaluate impacts on scenic resources visible from a designated road or highway. The Grassland Bypass project would have no effect on the visual environment.

The specific locations of water quality improvement projects and their visibility from a designated road or highway are not known at this time. Therefore, impacts on scenic resources that are visible from a designated road or highway from water quality improvement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because of the potential effects on views of scenic vistas and views from designated roads and highways, e.g., the construction and operations of water or wastewater treatment plants, the potential impacts of future projects encouraged by the Delta Plan are considered **significant**.

#### 8.4.3.3.3 Impact 8-3c: New Sources of Substantial Light or Glare

*Effects of Project Construction*

Water quality improvement projects encouraged by the Delta Plan would include new and expanded treatment plants and conveyance facilities (pipelines and pumping plants). Temporary light and glare effects from construction of these facilities would be similar to those described in Section 8.4.3.1.3 for reliable water supply projects encouraged by the Delta Plan. Water quality improvement facilities could be located in the Delta or in areas outside the Delta that use Delta water, as described in Section 2A, Proposed Project and Alternatives.

The Delta Plan encourages implementation of the North Bay Aqueduct Alternative Intake Project and the CV-SALTS effort. CV-SALTS would result in the construction of new wastewater treatment facilities. The new North Bay Alternative Intake Structure serves the purpose of meeting CV-SALTS and water discharge requirements. The new alternative intake structure would be located on the Sacramento River in a rural area of Sacramento or Yolo County, and the new pipeline would extend from the new intake structure to the existing North Bay Regional Water Treatment Plant. The diversion/intake structure and water conveyance pipeline are similar to those associated with the Davis-Woodland Water Supply Project, which is not named in the Delta Plan but provides analogous information.

The Davis-Woodland Water Supply Project EIR (City of Davis 2007) did not evaluate the introduction of light and glare from construction activities. The EIS/EIR for the Grassland Bypass Project (Reclamation and San Luis & Delta-Mendota Water Authority 2008) also was reviewed for a discussion of potential analogous impacts, but that EIS/EIR did not evaluate the introduction of light and glare from construction activities.

The specific locations of water quality improvement projects, the length of construction, the timing of construction (24-hour construction), the visibility of construction, and the sensitivity of viewers are not known at this time. Therefore, the introduction of light and glare from water quality improvement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operations*

Operational impacts for water quality improvement projects encouraged by the Delta Plan would be similar to those described in Section 8.4.3.1.3 for reliable water supply projects.

The Davis-Woodland Water Supply Project EIR (City of Davis et al. 2007) evaluated the introduction of nighttime lighting on the diversion/intake structure, water treatment plant, and storage tanks. In each case, the lead agency found that the new night lighting would be significant. Mitigation measures were not feasible for the diversion/intake structure because lights are necessary for navigation safety and security. Mitigation measures were feasible for the water treatment facility and storage tanks. The introduction of nighttime lighting was determined to be significant and unavoidable for the diversion/intake facility and less than significant with the incorporation of mitigation for the water treatment plant and storage tanks.

The EIS/EIR for the Grassland Bypass Project (Reclamation and San Luis & Delta-Mendota Water Authority 2008) also was reviewed for a discussion of potential analogous impacts. The Grassland Bypass EIS/EIR did not evaluate impacts resulting from light and glare because there would be no change with implementation of the project.

Impacts on the visual environment in the Delta, Delta watershed, or areas outside the Delta that use Delta water are expected to be similar to these examples. The specific locations of water quality improvement projects, the visibility of the facility, and the sensitivity of viewers are not known at this time. Therefore, impacts resulting from the introduction of light and glare from water quality improvement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Water quality improvement projects encouraged by the Delta Plan could introduce new sources of light and glare to the Delta, the Delta watershed, and areas outside the Delta that use Delta water that currently experience low levels of light and glare, e.g., nighttime construction needed for installation of a conveyance facility or long-term nighttime security lighting for water or wastewater treatment plant. This potential impact would be **significant**.

### *8.4.3.4 Flood Risk Reduction*

As described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to reduce the risk of floods in the Delta by encouraging various actions that, if taken, could lead to completion, construction, and/or operation of projects that could reduce flood risks in the Delta. Such projects and their features could include the following:

- Setback levees
- Floodplain expansion
- Levee maintenance
- Levee modification
- Dredging
- Stockpiling of rock for flood emergencies
- Subsidence reversal
- Reservoir reoperation

The number and location of all potential projects that would be implemented are not known at this time. Two possible projects, however, are known to some degree and are named in the Delta Plan: the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel (the United States Army Corps of Engineer's *Delta Dredged Sediment Long-Term Management Strategy* included in Appendix C, Attachment C-7 of this EIR) and DWR's Framework for Department of Water Resources Investments in Delta Integrated Flood Management program. There is no project-specific environmental evaluation of the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel Maintenance Project. The DWR framework is a program, not an activity that would generate impacts on visual resources; therefore, it is not discussed further in this section.

#### 8.4.3.4.1 Impact 8-1d: Substantial Degradation of Visual Qualities

*Effects of Project Construction*

Flood risk reduction projects encouraged by the Delta Plan would include the construction of levees and operable barriers along the levees, levee maintenance, levee modification, expansion of floodplains, and sediment removal from channels. Temporary visual effects from construction would include removal of vegetation and disturbance of soil in facilities' footprints and borrow/spoils areas and visibility of construction equipment, including excavation and grading equipment, haul trucks, cement trucks, cranes, and barges. This construction would be visible from the river and from roads and towns in the vicinity. These construction activities would be substantially more intense than those in the surrounding rural/agricultural landscape.

It is not known at this time what types of flood risk reduction projects would be constructed and where construction would occur. In addition to levee construction and levee repairs, the Delta Plan encourages dredging to reduce flood risk including, which would be involved in the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel Dredging Projects (which has not undergone project-specific environmental review). A project that involves similar hydraulic dredging and levee construction actions is the North Delta Flood Control and Ecosystem Restoration Project; it has undergone project-specific environmental review in an EIR (DWR 2010).

The North Delta Flood Control and Ecosystem Restoration Project was discussed in the ecosystem restoration subsection (Section 8.4.3.2.1). DWR found the impacts on the visual environment from construction activities to be less than significant because these impacts would be temporary.

Other documents reviewed for potential impacts included the EIS/EIR for the Long-term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region Final Policy (USACE et al. 1998) and the USACE Draft Supplemental EIS/EIR for the Sacramento River Deep Water Ship Channel (USACE and Port of West Sacramento 2011). The USACE dredged materials policy did not find visual resources to be an issue of concern. The Sacramento River Deep Water Ship Channel EIS/EIR found that dredging would have less-than-significant impacts on the visual environment. No mitigation measures were required.

Impacts on the visual environment in the Delta, Delta watershed, or areas outside the Delta that use Delta water are expected to be similar to these examples. The specific locations of flood risk reduction projects, the visibility of the facility, and the sensitivity of viewers' expectations are not known at this time. Therefore, impacts on the visual environment from construction activities for the flood risk reduction projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Implementing the Proposed Project could increase investments in levee improvements in the Delta. The improvements could primarily be to existing levees and typically would not alter their basic shape and configuration, except for the use of setback levees. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee. These improvements would not cause a significant permanent change in the landscape.

Construction of large flood control projects such as those considered in under the North Delta Flood Control Management and Ecosystem Restoration Project would occur in the Delta and could similarly affect the scenic and visual environment. The built infrastructure for flood control projects would be visually prominent.

New flood control structures or setback levees could obstruct previously open views. Operation of flood control structures or setback levees could permanently affect scenic vistas and degrade the visual character of riparian and waterfront areas. Depending on project location, permanent degradation of visual character may be necessary to maintain safe, secure, and efficient facility operations (for example, to ensure safe operations in wildfire hazard areas or areas prone to soil or erosion hazards). Other projects intended to improve water supply reliability and flood control in rivers tributary to the Delta could result in more water remaining in floodplains for longer periods of time, thereby reducing the potential use of existing agricultural lands in those floodplains and changing the visual character of these areas.

The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) evaluated permanent changes in the viewshed for fluvial process optimization, seasonal floodplain optimization, seasonal floodplain enhancements and subsidence reversal, detention basins, and dredging and levee modification. For each of these different flood control and ecosystem actions, the lead agency found that the implementation of the actions would enhance natural vegetation. Because the visual character of the

alternatives would be the same as the existing visual character, a less-than-significant impact finding was made, and no mitigation was required. The USACE dredged materials policy did not find effects on visual resources to be an issue of concern.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because changes to the visual character of landscapes could be considered a substantial degradation of existing conditions, e.g., the number of equipment needed for the construction of setback levees in the short term and substantial changes at a large borrow site for setback levee fill materials, the potential impacts of implementation of future projects are considered **significant**.

#### 8.4.3.4.2 Impact 8-2d: Adverse Effects on Scenic Vistas and Scenic Resources

*Effects of Project Construction*

SR-160 is designated as part of the State Scenic Highway System. County-designated scenic roads include I-5 ,I-80, I-680, SR-4 Bypass, SR-4, County Road J4, Bethel Island Road, Jersey Island Road, Walnut Boulevard, River Road, Isleton Road, Twin Cities Road, portions of Lower Roberts Island Road, Bacon Island Road, SR-12, Eight Mile and Empire Tract Perimeter roads, Inland Drive, McDonald Road, Neugebauer Road, Holt Road, SR-113, Grizzly Island Road, Lake Herman Road, and South River Road (Figure 8-7). The roads and highways were designated because of scenic views of the Sacramento River, historic towns, and surrounding farmland. Construction-related activities at construction sites for levees and operable barriers along the levees would be visible from designated roads and highways. Scenic views from segments of these roads and highways could be adversely affected during construction periods.

It is not known at this time what types of flood risk reduction projects would be constructed and where construction would occur. In addition to levee construction and levee repairs, the Delta Plan encourages implementation of the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel Dredging Projects. These projects have not undergone project-specific environmental review. A project that involves hydraulic dredging and levee construction actions similar to those associated with these ship channel projects is the North Delta Flood Control and Ecosystem Restoration Project (DWR 2010).

The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) and the Placement of Dredged Material in the San Francisco Bay Region Final Policy (USACE et al. 1998) did not find impacts of construction activities on scenic resources visible from a scenic highway to be an issue of concern. The Sacramento Deep Water Ship Channel is not visible from a designated road or highway and, therefore, was not evaluated in the USACE Draft Supplemental EIS/EIR for the Sacramento River Deep Water Ship Channel (USACE and Port of West Sacramento 2011).

The specific locations of flood risk reduction projects and their visibility from a designated road or highway are not known at this time. Therefore, construction-related impacts on scenic resources that are visible from a designated road or highway from flood risk reduction projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Completed facilities could adversely and permanently affect these scenic views. If new or modified facilities were of such a height and nature that would be readily noticeable to travelers along a designated road or highway, the facilities would be considered intrusive to the existing scenic qualities. Areas that could be used for disposal of construction soils or for borrow materials for levees could be revegetated to the extent possible, but evidence of their past use would remain visible for many years and would contribute to this impact. Setback levees could extend the levee footprint and width into the landside of an area and increase riparian habitat on the waterside of the levee.

The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) and the Placement of Dredged Material in the San Francisco Bay Region Final Policy EIS/EIR (USACE et al. 1998) did not find impacts on scenic resources visible from a scenic highway to be an issue of concern. The Sacramento Deep Water Ship Channel is not visible from a designated road or highway and therefore was not evaluated in the USACE Draft Supplemental EIS/EIR for the Sacramento River Deep Water Ship Channel (USACE and Port of West Sacramento 2011).

The specific locations of flood risk reduction projects and their visibility from a designated road or highway are not known at this time. Therefore, impacts on scenic resources that are visible from a designated road or highway from flood risk reduction projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because of the potential effects on views of scenic vistas and views from designated roads and highways, e.g., the removal of trees for setback levee construction or the loss of rock outcroppings at a borrow site, the potential impacts of implementation of potential projects are considered **significant**.

#### 8.4.3.4.3 Impact 8-3d: New Sources of Substantial Light or Glare

*Effects of Project Construction*

Flood risk reduction projects encouraged by the Delta Plan would include the construction of levees and operable barriers along the levees, levee maintenance, levee modification, expansion of floodplains, and sediment removal from channels. Temporary light and glare effects from construction of these facilities would be similar to those described in Section 8.4.3.1.3 for reliable water supply projects encouraged by the Delta Plan. Flood protection facilities could be located in the Delta. Construction of levee modifications may require 24-hour construction, introducing a new source of nighttime lighting. This construction would be visible to residents in the vicinity of levee construction. This could be particularly noticeable in rural areas where ambient nighttime light levels are lower than ambient nighttime lighting levels in urbanized areas.

It is not known at this time what types of flood risk reduction projects would be constructed and where construction would occur. In addition to levee construction and levee repairs, the Delta Plan encourages implementation of the Sacramento Deep Water Ship Channel and Stockton Deep Water Ship Channel Dredging projects. These projects have not undergone project-specific environmental review. A project that involves hydraulic dredging and levee construction actions similar to those associated with these ship channel projects is the North Delta Flood Control and Ecosystem Restoration Project (DWR 2010).

The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) and the Placement of Dredged Material in the San Francisco Bay Region Final Policy EIS/EIR (USACE et al. 1998) did not find the introduction of light and glare during construction activities to be an issue of concern. The Sacramento River Deep Water Ship Channel EIS/EIR found that dredging would introduce a new sources of light or glare that would have an adverse affect on daytime or night time views. The impact was considered less than significant and no mitigation measures were required.

*Effects of Project Operations*

Levees are the primary physical structures associated with flood protection projects encouraged by the Delta Plan. Operation of new or altered levees would not generally create new sources of light and glare because these structures are low-lying and not occupied. Lighting equipment associated with future occupied facilities could increase the amount of nighttime lighting above existing ambient light levels. Such a change would be particularly noticeable in rural areas where ambient light levels are currently low. Facilities could also be potential new sources of glare if they were made of materials that easily reflect light.

The North Delta Flood Control and Ecosystem Restoration Project EIR (DWR 2010) and the Placement of Dredged Material in the San Francisco Bay Region Final Policy EIS/EIR (USACE et al. 1998) did not find impacts resulting from the introduction of new sources of light or glare to be an issue of concern. The Sacramento Deep Water Ship Channel is not visible from a designated road or highway and was therefore not evaluated in the USACE Draft Supplemental EIS/EIR for the Sacramento River Deep Water Ship Channel (USACE and Port of West Sacramento 2011). The Sacramento River Deep Water Ship Channel is a construction project with no operational changes except to enable navigation by deeper-draft vessels.

Impacts from the introduction of new sources of light and glare in the Delta, Delta watershed, and areas outside the Delta that use Delta water are expected to be less than significant in most cases. In cases where levee modifications require 24-hour construction, new sources of nighttime lighting could be noticeable and possibly significant especially in rural areas with lower ambient nighttime light levels. The location of flood risk reduction activities are not known at this time. Therefore, impacts from the introduction of light and glare from flood risk reduction projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Projects encouraged by the Delta Plan could introduce new sources of light and glare to the Delta watershed, e.g., temporarily during the construction of levee modifications or over the long term if a new permanent structure associated with levee repair or management would require nighttime lighting in an area that currently experiences low levels of light and glare. This potential impact would be **significant**.

### 8.4.3.5 Protection and Enhancement of Delta as an Evolving Place

As described in Sections 2A, Proposed Project and Alternatives, and 2B, Introduction to Resource Sections, the Delta Plan does not direct the construction of specific projects, nor would projects be implemented under the direct authority of the Delta Stewardship Council. However, the Delta Plan seeks to protect and enhance the Delta as an evolving place by encouraging various actions and projects that, if taken, could lead to completion, construction, and/or operation of associated projects. Features of such actions could include the following:

- Gateways, bike lanes, parks, trails, and marinas and facilities to support wildlife viewing, angling, and hunting opportunities
- Additional retail and restaurants in legacy towns to support tourism

The number and location of all potential projects that would be implemented are not known at this time. However, four possible projects are known to some degree and are named in the Delta Plan: new State Parks at Barker Slough, at Elkhorn Basin, and in the southern Delta, and the Economic Sustainability Plan. The Economic Sustainability Plan is not an activity that would have an impact on visual resources; therefore, it is not discussed further in this section.

#### 8.4.3.5.1 Impact 8-1e: Substantial Degradation of Visual Qualities

*Effects of Project Construction*

Delta enhancement projects encouraged by the Delta Plan would include the projects listed in Section 8.4.3.5. Temporary visual effects from construction would include removal of vegetation and disturbance of soil in facilities footprints and borrow/spoils areas and visibility of construction equipment, including excavation and grading equipment, haul trucks, cement trucks, cranes, and barges. This construction would be visible from the river and from roads and towns in the vicinity. These construction activities would be substantially more intense than ongoing agricultural activities in the surrounding agricultural areas. In addition to parks and nature areas, this element of the Delta Plan would include new retail and restaurants in Delta legacy towns.

It is not known at this time what types of Delta enhancement projects would be constructed and where construction would occur. However, the Delta Plan encourages implementation of the Barker Slough and Elkhorn Basin State Parks, which have not undergone project-specific environmental review. There are ongoing projects that are similar to these park projects and that would be comparable to the general types of Delta-enhancing projects listed above. These ongoing projects have undergone project-specific environmental review in the Bidwell-Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project EIR (The Nature Conservancy and California State Parks 2008) and San Luis Rey River Park Master Plan EIR (San Diego County Department of Parks and Recreation 2008).

In both cases, the lead agency found that the construction activities would have less-than-significant impacts on the visual environment. No mitigation was required. While construction-related impacts on visual resources are expected to be similar in type to these two examples, the specific location of construction in relation to viewers is not known at this time. Therefore, construction-related impacts on visual resources cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Projects that seek to enhance Delta values could include a wide range of park and recreation, identity "branding" (signage and other improvements along major roadways that are gateways to the Delta), historic preservation, and related projects. Most projects likely to affect scenic vistas and visual character are Delta recreation proposals included in the California State Parks Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh, which is one of the enumerated projects in the Delta Plan (recommendation DP R4). Project size, location, specific features, and extent to which the existing natural or cultural character is permanently altered will determine the types and significance of localized impacts.

The Bidwell-Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project (The Nature Conservancy and California State Parks 2008) and San Luis Rey River Park (San Diego County Department of Parks and Recreation 2008) evaluated permanent changes in the visual environment from project implementation. As with construction activities, both agencies found the projects to have less-than-significant impacts on the visual environment and did not require mitigation.

Impacts on the visual environment in the Delta are expected to be similar in type to these two examples. In most cases, the effects of on the visual environment would not be significant. The specific locations of Delta enhancement activities, the quality of the visual environment, and sensitivity of viewers are not known at this time. Therefore, impacts on the visual environment from Delta enhancement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because changes to the visual character of a landscape from the construction and operations of new retail or restaurant uses that are not compatible with the historic character of the Delta legacy towns, could be considered a substantial degradation of existing conditions, the potential impacts of implementation of future projects are considered **significant**.

#### 8.4.3.5.2 Impact 8-2e: Adverse Effects on Scenic Vistas and Scenic Resources

*Effects of Project Construction*

Construction-related activities (including demolition) at construction sites for community gateways and visitor centers, new parks and waterfowl hunting opportunities would be similar to those described above in Section 8.4.3.5.1, and could be visible from designated roads or highways. Scenic views from designated roads and highways could be adversely affected during construction periods.

It is not known at this time what types of Delta enhancement projects would be constructed and where construction would occur. However, the Delta Plan encourages implementation of the Barker Slough and Elkhorn Basin State Parks. As mentioned above, the Bidwell-Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project EIR (The Nature Conservancy and California State Parks 2008) and San Luis Rey River Park Master Plan EIR (San Diego County Department of Parks and Recreation 2008) provide analogous information. Neither project site is visible from a designated road or highway; therefore construction activities would not impact scenic resources visible from a designated road or highway.

The specific location of construction in relation to designated roads and highways is not known at this time. Therefore, construction-related impacts on scenic resources that are visible from a designated road or highway cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Operation of cultural, recreational, or natural resource enhancement projects that involve buildings and other visually prominent facilities could permanently obstruct previously open views. If new or modified facilities were of such a height and nature that would be readily noticeable to travelers along a designated road or highway, the facilities would be considered intrusive to the existing scenic qualities.

Neither the Bidwell-Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities nor the San Luis Rey River Park is visible from a designated road or highway; therefore implementation of these projects would not impact scenic resources visible from a designated road or highway.

The specific locations of the Delta enhancement projects in relation to designated roads and highways is not known at this time. Therefore, impacts on scenic resources that are visible from a designated road or highway cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Project-level impacts would be addressed in future site-specific environmental analysis conducted at the time such projects are proposed by lead agencies. However, because of the potential effects on scenic vistas and views from designated roads or highways, e.g., new retail or restaurant uses that are incongruous with the historical context of the Delta legacy towns, the potential visual impacts of implementation of potential projects are considered **significant**.

#### 8.4.3.5.3 Impact 8-3e: New Sources of Substantial Light or Glare

*Effects of Project Construction*

Construction activities for Delta enhancement projects encouraged by the Delta Plan would include a similar range of activities as those described above in Section 8.4.3.5.1, and would have similar effects.

It is not known at this time what types of Delta enhancement projects would be constructed and where construction would occur. However, the Delta Plan encourages implementation of the Barker Slough and Elkhorn Basin State Parks. As mention above, there are ongoing projects, the Bidwell-Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project EIR (The Nature Conservancy and California State Parks 2008) and San Luis Rey River Park Master Plan EIR (San Diego County Department of Parks and Recreation 2008), that provide analogous information.

In both cases, the lead agency found that the construction activities would have less-than-significant impacts because nighttime construction would not be necessary. No mitigation was required. The specific location of construction, the timing of construction and the site's relation to viewers are not known at this time. Therefore, construction-related impacts resulting from the introduction of a new source of light or glare cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Effects of Project Operation*

Operation of Delta enhancement projects encouraged by the Delta Plan would include projects listed in Section 8.4.3.5, and would have similar effects as the impacts discussed in Section 8.4.3.5.1.

As mentioned above, the Bidwell-Sacramento River State Park Habitat Restoration and Outdoor Recreation Facilities Development Project EIR (The Nature Conservancy and California State Parks 2008) and San Luis Rey River Park Master Plan EIR (San Diego County Department of Parks and Recreation 2008) evaluated the introduction of new sources of light or glare. As with construction activities, both agencies found the projects to have less-than-significant impacts from nighttime lighting and did not require mitigation.

Nighttime lighting impacts in the Delta, Delta watershed, and areas outside the Delta that use Delta water are expected to be similar in type to these two examples. The specific locations of Delta enhancement activities and the distance of sensitive viewers from the facilities are not known at this time. Therefore, impacts on the visual environment from Delta enhancement projects cannot be accurately determined, and it is uncertain whether feasible mitigation measures would be available for implementation.

*Conclusion*

Projects encouraged by the Delta Plan could introduce new sources of light and glare to Delta watershed, Delta, and areas outside the Delta that use Delta water that currently experience low levels of light and glare, e.g., nighttime construction for new retail and restaurant uses or new nighttime lighting from new retail or restaurant signage. This potential impact would be **significant**.

### *8.4.3.6 Mitigation Measures*

Any covered action that would have one or more of the significant environmental impacts listed above shall incorporate the following features and/or requirements related to such impacts (e.g., use of compatible colors for structure to minimize intrusiveness on the landscape).

With regard to covered actions implemented under the Delta Plan, these mitigation measures will reduce the impacts of the Proposed Project. Project-level analysis by the agency proposing the covered action will determine whether the measures are sufficient to reduce those impacts to a less-than-significant level. Generally speaking, many of these measures are commonly employed to minimize the severity of an impact and in many cases would reduce impacts to a less-than-significant level, as discussed below in more detail.

With regard to actions taken by other agencies on the basis of Delta Plan recommendations (i.e., activities that are not covered actions), the implementation and enforcement of these measures would be within the responsibility and jurisdiction of public agencies other than the Delta Stewardship Council. Those agencies can and should adopt these measures as part of their approval of such actions, but the Delta Stewardship Council does not have the authority to require their adoption. Therefore, significant impacts of noncovered actions could remain **significant and unavoidable**.

A discussion of how mitigation measures identified in this EIR relate to covered and noncovered actions is presented in more detail in Section 2B, Introduction to Resource Sections.

#### 8.4.3.6.1 Mitigation Measure 8-1

The following mitigation measures would reduce the effects of Impact 8-1a through e, Substantial Degradation of Visual Qualities:

- Use compatible colors for proposed structural features, such as intakes, pumping plants, and surge towers. Use earth tone paints and stains with low levels of reflectivity.
- Minimize the vertical profile of proposed structures as much as possible. Where possible, use subgrades for floors of structures. Use landscaped berms instead of walls to mask views of structures from high-visibility sites. Use green roof design where roof structures would be highly visible.
- Do not enclose facilities with chain-link fencing. If fencing is required, use wall structures with varied form, texture, colors and plantings compatible with the surrounding visual landscape.
- Use vegetation plantings on proposed facility walls, such as climbing plants, espaliers, and other forms that soften the appearance of structures.
- Develop a landscaping plan for all proposed structures. Provide vegetative screening to block views of intakes, pumping plants, surge towers, and new levees/canals. Landscaping should complement the surrounding landscape. For example, screen edges along riverbanks with natural riparian vegetation with varied growth forms. Plant orchard trees as part of the landscaping plan where proposed facilities are located adjacent to orchards.
- Round the tops and bottoms of spoil disposal areas, and contour the faces of slopes to create more natural-looking landforms. Create visual diversity by planting vegetation with diverse growth forms on the spoil disposal areas; plant with more than just grasses.
- Create visual diversity by planting vegetation with diverse growth forms on the slopes of proposed canal levees; plant with more than just grasses. Vary the form, texture, and pattern of the canal levee slopes to add visual diversity while keeping the composition of aesthetic elements visually compatible with the surrounding landscape.

- Landscape parking areas at proposed facilities, and include low-impact design features, such as permeable pavers, tree basins, and bioswales, that reduce stormwater runoff and enhance visual quality.

- Conduct only partial vegetative clearing of the limits of construction rather than clear the entire area; partial clearing would leave islands of vegetation and result in a more natural look. Use irregular clearing shapes with feathered edges instead of hard edges to promote a more natural effect.

- Develop design form and materials with a goal to achieve aesthetic visual character instead of a strictly utilitarian objective. Use cast natural form elements or natural materials (stone) for facing to achieve texture and color compatible with the adjacent landscape; natural materials would be preferable for areas of high visibility and public use. Landscape areas adjacent to facilities. Use natural materials, such as wood and stone, for signage at proposed facilities.

- Develop aesthetically pleasing landscaping for relocated roads at the shoulders, intersections, and on- and off-ramps from highways. Design turnouts and scenic vista points where appropriate for relocated roads with high visibility and high public use.

- Use single-pole electrical transmission towers instead of lattice-form towers for proposed large electrical transmission lines, and put transmission lines underground along areas with high visibility and high public use.

- Consider developing aesthetically well-designed visitor centers, vantage areas, or observation decks at appropriate facilities with interpretation features, walking paths, and other features. Although developing visitor centers would not reduce a visual impact, it would have the effect of making the facilities features of interest to the touring public.

These mitigation measures are commonly employed on a variety of projects. In many cases, they reduce significant impacts on visual resources to less-than-significant levels. Implementation of these mitigation measures would reduce the significance of impacts on visual resources by minimizing the intrusiveness of new structures on the landscape; revegetating areas cleared for staging and construction; including landscaping for new facilities; using attractive materials and interesting design features; and providing visitors centers, vantage areas, or observation decks. In cases when a project feature changes a landscape or viewshed to the extent that the character of the view is degrading to the point of intruding on a viewer's expectations impacts on visual resources would remain **significant**.

#### 8.4.3.6.2 Mitigation Measure 8-2

The following mitigation measures would reduce the effects of Impact 8-2a through e, Adverse Effects on Scenic Vistas and Scenic Resources:

- Implement elements of Mitigation Measure 8-1 for temporary construction activities and new facilities that are visible from scenic vistas and designated roads and highways as appropriate.

- Replace all scenic resources (e.g., large trees) that would be removed for the Proposed Project, when feasible. Identify compensatory mitigation for visual or aesthetic resources by providing improvements to areas with existing diminished scenic quality.

These mitigation measures are commonly employed on a variety of projects. In many cases, they reduce significant impacts on scenic resources that are visible from a designated road or highway to less-than-significant levels. Implementation of these mitigation measures would replace to the extent possible scenic features that must be removed for new facilities. In cases when scenic resources cannot be replaced (for example, the removal of a large heritage tree that is the focus of a public vista), the significance of impacts on scenic resources that are visible from a designated road or highway would remain **significant**.

#### 8.4.3.6.3 Mitigation Measure 8-3

The following mitigation measure would reduce the effects of Impact 8-3a through e, New Sources of Substantial Light or Glare:

- Use shields for proposed lighting facilities, and direct lighting downward and inward toward the facilities.

This measure is commonly employed on a variety of projects. In many cases, it reduces significant light and glare impacts by reducing light scatter to less-than-significant levels. In cases when lighting cannot be screened from sensitive viewers, light and glare impacts would remain **significant**.

## 8.4.4 No Project Alternative

As described in Section 2A, Proposed Project and Alternatives, the No Project Alternative is based on the continuation of existing plans and policies and the continued operation of existing facilities into the future and permitted and funded projects. Seven ongoing projects have been identified as part of the No Project Alternative. The list of projects included in the No Project Alternative is presented in Table 2-2.

The significance of visual resources impacts is associated with people's expectations of a viewshed. These effects are characterized by changes to the composition, character, and context of the valued qualities of the environment. With the No Project Alternative, project construction at the seven specific project sites is expected to be completed within the next 2–5 years.

To the extent that the specific projects are located near a substantial number of people with high expectations of the area in view, construction of these facilities could have significant construction-related changes in the visual environment in the near-term period. After construction is completed, construction-related impacts would cease, and impacts from project operations would commence. There may be a period of time between the completion of construction and the start of operations.

Each of the projects listed for the No Project Alternative was subject to environmental review by the respective implementing agency. All but the Contra Costa Water District Rock Slough Fish Screen were approved with the adoption of an EIR. The Rock Slough Fish Screen was adopted with a mitigated negative declaration. The lead agencies that prepared the Freeport Regional Water Project EIR/EIS (Reclamation and Freeport Regional Water Authority 2003) found that there would be significant and unavoidable impacts on visual resources resulting from inundating areas in the Upper Mokelumne River upstream from Pardee Dam. The new water intake structure and water treatment plant for the Stockton Delta Water Supply project were found to have significant impacts on visual resources and from nighttime lighting (City of Stockton 2005). The lead agencies of the other projects did not find any potentially significant impacts from project impacts from operations, and none required mitigation for project operations.

With the No Project Alternative, the Delta Plan would not be in place to encourage various other projects to move forward. To the extent that the absence of the Delta Plan prevents those projects from moving forward, there could be fewer construction-related impacts on visual resources in the near term and fewer construction- and operations-related impacts on visual resources over the long term. Because impacts on visual resources related to the Freeport Regional Water Project and Stockton Delta Water Supply Project were found to be significant and unavoidable, the impacts of the No Project Alternative would be **significant and unavoidable**.

The No Project Alternative is expected to have **less** impacts on visual resources during construction and operations than the impacts associated with the Proposed Project.

## 8.4.5 Alternative 1A

Under Alternative 1A, the construction and operation of surface water projects (water intakes, treatment and conveyance facilities, and reservoirs) would be the same as under the Proposed Project. As described in Section 2A, Proposed Project and Alternatives, there would be fewer groundwater projects (wells, wellhead treatment, conveyance facilities), ocean desalination projects, and recycled wastewater and stormwater projects (treatment and conveyance facilities) compared with the Proposed Project. Water transfers and water use efficiency and conservation programs also would be reduced relative to the Proposed Project, but these activities would not result in any changes in the visual environment.

Projects to restore the Delta ecosystem would be reduced relative to the Proposed Project. The implementation of flow objectives that could lead to a more natural flow regime in the Delta would not be accelerated, as they would be encouraged to be under the Proposed Project. Ecosystem stressor management activities and invasive species management (including removal of invasive vegetation) would be the same as described for the Proposed Project.

Projects and actions to improve water quality would be the same as under the Proposed Project. Flood risk reduction projects also would be the same as under the Proposed Project, except that there would be less emphasis on levee maintenance and modification for levees that protect agricultural land and more emphasis on levees that protect water supply corridors and urban areas, which could result in an overall reduction in these activities. Projects to protect and enhance the Delta as an evolving place would be the same as the Proposed Project.

#### 8.4.5.1.1 Impact 8-1: Substantial Degradation of Visual Qualities

The same types of temporary and permanent impacts on visual resources from construction and operation of water supply reliability projects would occur under Alternative 1A as described under the Proposed Project, but to a lesser extent compared to the Proposed Project because fewer facilities would be constructed, i.e., fewer groundwater, ocean desalination, and recycled and stormwater project as described above. To the extent the Delta ecosystem restoration projects would impact visual resources Alternative 1A would have fewer impacts than the Proposed Project because there would be fewer Delta ecosystem restoration projects implemented. Removal of nonnative vegetation is considered a benefit of the Proposed Project and this alternative would have the same benefit as the Proposed Project.

With Alternative 1A, less emphasis would be placed on levee construction in sparsely populated agricultural areas and more focused in urban areas. While fewer miles of levees would be modified, modifications during construction and operation would be visible to a greater number of people. Considering that levees are a common feature in these areas, and visual disruption is not expected to be high, the construction activities would nevertheless be visible to large number of people, but visible to fewer than with the Proposed Project; therefore impacts on visual resources from flood risk reductions could be similar to and possibly less than, Alternative 1A than with the Proposed Project.

There would be same the construction- and operations-related impacts on visual resources for water quality improvement (Section 8.4.3.3.1) and Delta enhancement (Section 8.4.3.5.1) projects because Alternative 1A would implement the same number of these projects as the Proposed Project.

Significant construction-related impacts on visual resource from Alternative 1A would be less than under the Proposed Project, because Alternative 1A would involve less construction (so fewer projects with construction equipment degrading the visual character of a site). Alternative 1A would have fewer long-term operational impacts on visual resources because fewer new facilities of the type that generate impacts on visual resources would be constructed or installed (e.g., fewer permanent structures such as wells, desalination plants, and conveyance facilities including pumps). Ecosystem restoration and flood risk reduction actions would have fewer construction-related impacts than the Proposed Project but the same long-term operational impacts because operations a similar number of a few small structures.

Overall, because there would be fewer projects constructed and operated, significant impacts on visual resources with Alternative 1A would be **less than** under the Proposed Project. Compared to existing conditions, the impacts related to construction and operations on visual resources under 1A would be **significant**.

#### 8.4.5.1.2 Impact 8-2: Adverse Effects on Scenic Vistas and Scenic Resources

The same types of temporary and permanent impacts on scenic vistas and scenic resources that are visible from designated roads and highways from construction and operation of water supply reliability projects would occur, but to a lesser extent compared to the Proposed Project because fewer groundwater, ocean desalination, and recycled and stormwater facilities would be implemented. The potential for scenic vistas and scenic resources to be adversely affected by the construction and operations of Delta ecosystem restoration projects would be less with Alternative 1A than with the Proposed Project because fewer Delta ecosystem restoration projects would be implemented, possibly avoiding areas that are visible from designated roads and highways. Removal of nonnative vegetation is considered a benefit of the Proposed Project, and this alternative would have the same benefit as the Proposed Project, especially if areas where nonnative vegetation is removed can be seen from a scenic vista or designated road or highway.

With Alternative 1A, less emphasis would be placed on levee construction in sparsely populated agricultural areas and would be more focused in urban areas. While fewer levees would be constructed or modified, the levees that are constructed or modified would be equally visible from a scenic road or highway as the number of levees constructed with implementation of the Proposed Project. Considering that levees are a common feature in these areas, the visual disruption is not expected to be high, the construction activities would nevertheless be visible to a large number of people, but visible to fewer than with the Proposed Project; therefore impacts on scenic vistas and scenic resources from flood risk reduction projects could be similar and possibly fewer with Alternative 1A than with the Proposed Project.

There would be same construction- and operations-related impacts on scenic vistas and scenic resources that are visible from a designated road or highway for water quality improvement (Section 8.4.3.3.1) and Delta enhancement (Section 8.4.3.5.1) projects because Alternative 1A would implement the same number of these projects as the Proposed Project would.

Significant construction-related impacts on scenic resource visible from a scenic vista or designated road or highway from Alternative 1A would be less than under the Proposed Project because Alternative 1A involves less construction (so fewer projects with construction equipment would be visible from a scenic vista or designated road or highway). Alternative 1A would have fewer long-term operational impacts on scenic resources visible from scenic vistas or designated roads and highways because there would be a lower potential for new facilities to be constructed or installed (e.g., fewer permanent structures such as wells, desalination plants, and conveyance facilities including pumps). Ecosystem restoration actions would have fewer construction-related impacts with Alternative 1A than the Proposed Project, but the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be fewer projects constructed and operated, significant impacts on scenic resources that are visible from scenic vistas or designated roads and highways with Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the impacts related to construction and operations on scenic vistas and scenic resources that are visible from designated roads and highways would be **significant**.

#### 8.4.5.1.3 Impact 8-3: New Sources of Substantial Light or Glare

The same types of temporary and permanent light and glare impacts would occur from construction and operation of water supply reliability projects under Alternative 1A as described under the Proposed Project, but to a lesser extent compared to the Proposed Project. There would be fewer light and glare impacts from new groundwater, ocean desalination, and recycled and stormwater projects because implementation of Alternative 1A would construct fewer of these facilities than the Proposed Project. To the extent that Delta ecosystem restoration projects could introduce new sources of light or glare during construction or operations, Alternative 1A would have fewer impacts than the Proposed Project because there would be fewer Delta ecosystem restoration projects implemented. Removal of nonnative vegetation does not introduce light or glare; therefore, Alternative 1A would have the same effect as the Proposed Project.

With Alternative 1A, less emphasis would be placed on levee construction in sparsely populated agricultural areas and would be more focused in urban areas. Construction of levee modifications may require 24-hour construction, introducing a new source of nighttime lighting. While fewer levees would be under construction, construction would occur where activities would be visible to large number of people. Construction would, however, be visible to fewer people with Alternative 1A than with the Proposed Project; therefore impacts on visual resources from flood risk reductions could be similar and possibly fewer with Alternative 1A than with the Proposed Project.

There would be same construction- and operations-related light and glare impacts for water quality improvement (Section 8.4.3.3.1) and Delta enhancement (Section 8.4.3.5.1) projects because Alternative 1A would implement the same number of these projects as the Proposed Project.

There would be less construction-related light and glare impacts with Alternative 1A than with Proposed Project because there would be fewer projects implemented that could require 24-hour construction. Fewer facilities that would require nighttime security lighting (e.g. wells, ocean desalination, and recycled and stormwater treatment facilities) would be implemented under Alternative 1A than with the Proposed project.

Overall, significant light and glare impacts related to construction and operations of Alternative 1A would be **less than** under the Proposed Project.

As compared to existing conditions, the light and glare impacts related to construction and operations of Alternative 1A would be **significant**.

### *8.4.5.2 Mitigation Measures*

Mitigation measures for Alternative 1A would be the same as those described in Sections 8.4.3.6.1 (Mitigation Measure 8-1), 8.4.3.6.2 (Mitigation Measure 8-2), and 8.4.3.6.3 (Mitigation Measure 8-3) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 8-1, Substantial Degradation of Visual Qualities; 8-2, Adverse Effects on Scenic Vistas and Scenic Resources; and 8-3, New Sources of Substantial Light or Glare, to a less-than-significant level for Alternative 1A, this potential impact is considered **significant and unavoidable.**

## 8.4.6 Alternative 1B

With Alternative 1B, the construction and operation of surface water projects (water intakes, treatment and conveyance facilities, and reservoirs) would be the same as under the Proposed Project. As described in Section 2A, Proposed Project and Alternatives, there would be fewer groundwater projects (wells, wellhead treatment, conveyance facilities) and recycled wastewater and stormwater projects (treatment and conveyance facilities). There would also be fewer water transfers and water use efficiency and conservation programs as compared to the Proposed Project, but these actions would not affect the visual environment. There would be no ocean desalination projects.

Projects to restore the Delta ecosystem would be reduced in extent relative to the Proposed Project and would not emphasize restoration of floodplains in the lower San Joaquin River. Implementation of flow objectives would not be accelerated or include Public Trust considerations. Ecosystem stressor management activities and invasive species management (including removal of invasive vegetation) would be increased compared to the Proposed Project, and a variance to the USACE Levee Vegetation Policy would not be pursued. In addition, Alternative 1B would not require conformance with the habitat types and elevation maps presented in the Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (DFG 2011).

Water quality improvement projects, including water treatment plants, conveyance facilities, and wells and wellhead treatment facilities, would be less emphasized relative to the Proposed Project, and greater emphasis would be placed on the construction and operation of wastewater treatment and recycle facilities and municipal stormwater treatment facilities.

Flood risk reduction would place greater emphasis on levee modification/maintenance and dredging than under the Proposed Project, but there would be no construction of setback levees or subsidence reversal projects. Floodplain expansion projects would be fewer or less extensive, and use of reservoir reoperation would be reduced. Actions to protect and enhance the Delta as an evolving place would be consistent with the Economic Sustainability Plan, but the locations for new parks, as encouraged by the Proposed Project, would not be emphasized.

#### 8.4.6.1.1 Impact 8-1: Substantial Degradation of Visual Qualities

As described in Section 8.4.5.1, the same types of temporary and permanent impacts on visual resources from construction and operation of water supply reliability projects would occur under Alternative 1B, but to a lesser extent compared to the Proposed Project. While the same number of surface water storage projects would be constructed and operated (resulting in the same impacts on visual resources as the Proposed Project), no ocean desalination facilities and fewer groundwater and recycled and stormwater facilities would be implemented. Therefore, construction- and operations-related impacts on visual resources would be less for Alternative 1B than for the Proposed Project. To the extent that the Delta ecosystem restoration projects would impact visual resources Alternative 1B would have fewer impacts than the Proposed Project because there would be fewer Delta ecosystem restoration projects implemented. Removal of nonnative vegetation is considered a benefit of the Proposed Project, and this alternative would increase the amount of nonnative vegetation and thereby have a greater benefit than the Proposed Project. On the other hand, a variance from the USACE Levee Vegetation Policy would not be obtained. Vegetation along levees is considered by many to be scenic resources, the removal of which would be significant. Because Alternative 1B would remove more levee vegetation than the Proposed Project, impacts on visual resource under Alternative 1B would be greater than under the Proposed Project.

Fewer water quality improvement projects (water treatment plants, conveyance facilities, and wells and wellhead treatment facilities) would be implemented with Alternative 1B than with the Proposed Project. Therefore, there would be fewer construction- and operations-related impacts on visual resources.

With Alternative 1B, less emphasis would be placed on levee construction in sparsely populated agricultural areas and would be more focused in urban areas. While the overall length of levees to be modified would be reduced, modifications during construction and operation would be visible to a large number of people. Construction activities would, however, be visible to a smaller number of people with Alternative 1B than with the Proposed Project; therefore, impacts on visual resources from flood risk reductions could be similar and possibly less with Alternative 1B than with the Proposed Project.

The same types and numbers of Delta enhancement projects would be implemented under Alternative 1B and would have the same types of impacts on visual resources as the Proposed Project. One is exception is that, to the extent that parks would result in significant impacts on visual resources, these would not occur at the two locations named in the Delta Plan.

Significant construction-related impacts on visual resource from Alternative 1B would be less than under the Proposed Project, because Alternative 1B would involve less construction (so fewer projects with construction equipment degrading the visual character of a site). Alternative 1B would have fewer long-term operational impacts on visual resources because fewer new facilities of the type that generate impacts on visual resources would be constructed or installed (e.g., fewer permanent structures such as wells, treatment plants, and conveyance facilities including pumps). Ecosystem restoration and flood risk reduction actions would have fewer construction-related impacts than the Proposed Project but the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be fewer projects constructed and operated, significant impacts on visual resources with Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the construction- and operations-related impacts on visual resource under Alternative 1B would be **significant**.

#### 8.4.6.1.2 Impact 8-2: Adverse Effects on Scenic Vistas and Scenic Resources

As described in Section 8.4.5.1, the same types of temporary and permanent impacts on scenic resources that are visible from scenic vistas and designated roads and highways from construction and operation of water supply reliability projects would occur under Alternative 1B, but to a lesser extent compared to the Proposed Project. While the same number of surface water storage projects would be constructed and operated (resulting in the same impacts on scenic vistas and scenic resources visible from designated roads and highways as the Proposed Project), no ocean desalination facilities and fewer groundwater and recycled and stormwater facilities would be implemented. Therefore, there would be fewer construction-and operations-related impacts on scenic vistas and scenic resources visible from designated roads and highways for Alternative 1B than for the Proposed Project. To the extent the Delta ecosystem restoration projects would impact scenic vistas and scenic resources visible from designated roads and highways, Alternative 1B would have fewer impacts than the Proposed Project because there would be fewer Delta ecosystem restoration projects implemented. Removal of nonnative vegetation is considered a benefit of the Proposed Project, and this alternative would increase the amount of nonnative vegetation and thereby have a greater benefit than the Proposed Project. On the other hand, a variance from the USACE Levee Vegetation Policy would not be obtained. Vegetation along levees is considered by many to be scenic resources (especially if stands of trees are visible from a designated road or highway), the removal of which would be significant adverse effect. Because Alternative 1B would remove more levee vegetation than the Proposed Project, impacts on scenic vistas and scenic resources visible from designated roads and highways under Alternative 1B would be greater than under the Proposed Project.

Fewer water quality improvement projects (water treatment plants, conveyance facilities, and wells and wellhead treatment facilities) would be implemented with Alternative 1B than with the Proposed Project. Therefore, there would be fewer construction- and operations-related impacts on scenic vistas and scenic resources visible from designated roads and highways.

With Alternative 1B, less emphasis would be placed on levee construction in sparsely populated agricultural areas and would be more focused in urban areas. While the overall length of levees to be modified would be reduced, modifications during construction and operation would be visible to a large number of people. Construction activities would, however, be visible to a smaller number of people with Alternative 1B than with the Proposed Project; therefore, impacts on scenic vistas and scenic resources visible from designated roads and highways from flood risk reductions could be similar and possibly less with Alternative 1B than with the Proposed Project.

The same types and numbers of Delta enhancement projects would be implemented under Alternative 1B and would have the same types of impacts on scenic vistas and scenic resources visible from designated roads and highways as the Proposed Project. As discussed in Section 8.4.6.1.1, the exception is that the significant impacts on scenic vistas and scenic resources visible from designated roads and highways would not occur at the location of the two locations named in the Delta Plan.

Significant construction-related impacts on scenic resources that are visible from a scenic vista or designated road or highway from Alternative 1B would be less than under the Proposed Project, because Alternative 1B would involve less construction (so fewer projects with construction equipment would be visible from a scenic vista or designated road or highway). Alternative 1B would have fewer long-term operational impacts on scenic vistas and views from scenic vistas or designated roads and highways because there would be a lower potential for new facilities to be constructed or installed (e.g., fewer permanent structures such as wells, treatment plants, and conveyance facilities including pumps). Restoration and ecosystem restoration actions would have fewer construction-related impacts with Alternative 1B than the Proposed Project, but the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be fewer projects constructed and operated, significant impacts on scenic resources that are visible from scenic vistas or designated roads and highways with Alternative 1B would be **less than** under the Proposed Project.

As compared to existing conditions, the potential impacts on scenic vistas and scenic resources visible from designated roads and highways with implementation of Alternative 1B would be **significant**.

#### 8.4.6.1.3 Impact 8-3: New Sources of Substantial Light or Glare

As described in Section 8.4.5.3, the same types of temporary and permanent light and glare impacts would occur from construction and operation of water supply reliability projects under Alternative 1B, but to a lesser extent compared to the Proposed Project. While the same number of surface water storage projects would be constructed and operated (resulting in the same light and glare impacts as the Proposed Project), no ocean desalination facilities and fewer groundwater and recycled and stormwater facilities would be implemented. Therefore, fewer construction- and operations-related light and glare impacts would be expected for Alternative 1B than for the Proposed Project. To the extent the Delta ecosystem restoration projects would introduce new sources of light or glare, Alternative 1B would have fewer impacts than the Proposed Project because fewer Delta ecosystem restoration projects would be implemented. Removal of nonnative vegetation does not introduce light or glare, nor would vegetation removal in accordance with the USACE Levee Vegetation Policy. Therefore, Alternative 1B would have the same light and glare impacts from vegetation removal as the Proposed Project.

Fewer water quality improvement projects (water treatment plants, conveyance facilities, and wells and wellhead treatment facilities) would be implemented with Alternative 1B than with the Proposed Project. Therefore, there would be fewer construction- and operations-related light and glare impacts.

With Alternative 1B, less emphasis would be placed on levee construction in sparsely populated agricultural areas and more focused in urban areas. Construction of levee modifications may require 24-hour construction, as discussed in Section 8.4.5.1.3, resulting in the introduction of nighttime lighting. Construction would occur in areas that are visible to a large number of people. Construction activities would however, be visible to a smaller number of people with Alternative 1B than with the Proposed Project; therefore, light and glare impacts from flood risk reductions could be similar and possibly less with Alternative 1B than with the Proposed Project.

The same types and numbers of Delta enhancement projects would be implemented under Alternative 1B and would have the same types of light and glare impacts as the Proposed Project, except that these would not occur at the location of the two named locations for the proposed State Parks in the Delta Plan.

There would be approximately the same construction-related light and glare impacts under Alternative 1B as with the Proposed Project because there would be a similar number of projects that could require 24-hour construction. Fewer facilities that would require nighttime security lighting (e.g. wells, water treatment plants, and recycled and stormwater treatment facilities) would be implemented with Alternative 1B than with the Proposed Project. Because construction-related light and glare impacts would be temporary and operations-related impacts would be permanent, overall, significant light and glare impacts related to Alternative 1B would be **less than** under the Proposed Project.

Compared with existing conditions, potential light and glare impacts from construction and operations of Alternative 1B would be **significant**.

### *8.4.6.2 Mitigation Measures*

Mitigation measures for Alternative 1B would be the same as those described in Sections 8.4.3.6.1 (Mitigation Measure 8-1), 8.4.3.6.2 (Mitigation Measure 8-2), and 8.4.3.6.3 (Mitigation Measure 8-3) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 8-1, Substantial Degradation of Visual Qualities; 8-2, Adverse Effects on Scenic Vistas and Scenic Resources; and 8-3, New Sources of Substantial Light or Glare, to a less-than-significant level for Alternative 1B, this potential impact is considered **significant and unavoidable.**

## 8.4.7 Alternative 2

As described in Section 2A, Proposed Project and Alternatives, Alternative 2 would place greater emphasis on groundwater, ocean desalination, and recycled water projects and less emphasis on surface water projects. Greater emphasis also would be placed on water transfers and water use efficiency and conservation programs, but these activities would not be expected to generate any changes in the visual environment. The surface storage reservoirs considered under the DWR Surface Water Storage Investigation would not be encouraged; instead, surface storage in the Tulare Basin would be emphasized.

Ecosystem restoration projects similar to but less extensive than those encouraged by the Proposed Project would be emphasized. Alternative 2 would emphasize the development of flow objectives that take into consideration updated flow criteria that support a more natural flow regime, water rights, and greater protection of the Public Trust resources, none of which would result in changes to the visual environment.

Actions to improve water quality would be similar to or greater than those under the Proposed Project, especially the treatment of wastewater and agricultural runoff. Actions to reduce flood risk under Alternative 2 would emphasize floodplain expansion and reservoir reoperation rather than levee

construction and modification. The stockpiling of rock and encouragement of subsidence reversal projects would be the same as under the Proposed Project, as would actions to protect and enhance the Delta as an evolving place.

#### 8.4.7.1.1 Impact 8-1: Substantial Degradation of Visual Qualities

Under Alternative 2, there would be more construction and operation of groundwater, ocean desalination, and recycled water facilities, potentially resulting in a greater number of temporary and permanent impacts on visual resources compared to the Proposed Project given that these projects would be located in more populous regions. Construction and operations of the surface water storage projects named in the Delta Plan would not occur, reducing impacts on visual resources. Surface water storage demand would be satisfied by developing surface water storage in the Tulare Basin, thereby shifting impacts on visual resources from the regions named in the Delta Plan to the vicinity of Tulare Lake. Like Alternatives 1A and 1B, fewer impacts on visual resources from Delta ecosystem restoration projects would be expected with implementation of Alternative 2 than from the Proposed Project because fewer Delta ecosystem restoration projects would be implemented. Changes in flow criteria that would be emphasized with Alternative 2, would change habitat types in the Delta and Suisun Marsh. These changes would not be considered visually adverse. Changes in habitat types from implementing the Proposed Project likewise would not be considered adverse. Therefore, implementation of flow criteria with Alternative 2 would have similar impacts on visual resources as the Proposed Project.

A similar number of water quality improvement projects would be implemented with Alternative 2, but there would be more wastewater treatment and agricultural runoff facilities than there would be with the Proposed Project. Therefore, there would be more construction- and operations-related impacts on visual resources because there would be more of these facilities that could degrade scenic resources than there might be with implementation of the Proposed Project.

Flood risk reduction projects described in Section 8.4.3.4.4, including construction of levees in the Delta, would be less likely under Alternative 2 because flood risk management would emphasize floodplain expansion and dam operations more than the Proposed Project. Impacts on visual resources from floodplain expansion would likely cause similar or reduced visual impacts than the Proposed Project because these actions would occur in less-populated agricultural areas rather than in the more-populated urban areas. Changes in land forms would be less obvious for floodplain modification than it would be for levees under the Proposed Project. Dam operations would not substantially change the visual environment. Temporary impacts on visual resources from rock stockpiling would be the same with Alternative 2 as for the Proposed Project, as would temporary and permanent impacts on visual resources from implementation of Delta enhancement projects.

Significant construction-related impacts on visual resources from Alternative 2 would be more than under the Proposed Project, because Alternative 2 would involve more construction (so more projects with construction equipment degrading the visual character of a site). Alternative 2 would have more long-term operational impacts on visual resources because a greater number of new facilities of the type that generate impacts on visual resources would be constructed or installed (e.g., more permanent structures such as wells, ocean desalination, wastewater treatment and water recycling facilities, and conveyance including pumps). Ecosystem restoration and flood risk reduction actions would have fewer construction-related impacts than the Proposed Project but the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be more projects constructed and operated, significant impacts on visual resources with Alternative 2 would be **more than** under the Proposed Project.

As compared to existing conditions, the construction- and operations-related impacts on visual resources under Alternative 2 would be **significant**.

#### 8.4.7.1.2 Impact 8-2: Adverse Effects on Scenic Vistas and Scenic Resources

Under Alternative 2, there would be more construction and operation of groundwater, ocean desalination, and recycled water facilities, potentially resulting in a greater number of temporary and permanent impacts on scenic vistas and scenic resources that are visible from designated roads and highways compared to the Proposed Project for the reasons stated in Section 8.4.7.1.1. Construction and operations of the surface water storage projects named in the Delta Plan would not occur, reducing impacts on scenic vistas and scenic resources that are visible from a designated road or highway in these locations. As previously noted in Section 8.4.7.1.1, potentially significant impacts on scenic vistas and scenic resources that are visible from a designated road or highway would be transferred to the Tule Basin area because surface water storage in Tulare Lake would be emphasized under Alternative 2. Like Alternatives 1A and 1B, fewer impacts on scenic vistas and scenic resources that are visible from a designated road or highway from Delta ecosystem restoration projects would be expected with implementation of Alternative 2 compared to the Proposed Project. Changes in flow criteria that would be emphasized with Alternative 2, would change habitat types in the Delta and Suisun Marsh. These changes would not be considered adverse and, therefore, would be the same for Alternative 2 as for the Proposed Project.

A similar number of water quality improvement projects would be implemented with Alternative 2, but there would be more wastewater treatment and agricultural runoff facilities than there would be with the Proposed Project. Therefore, there would be more construction- and operations-related impacts on scenic vistas and scenic resources that are visible from a public road or highway because there would be more of these facilities than there would be with the Proposed Project.

As described in Section 8.4.7.1.1, impacts on scenic vistas and scenic resources that are visible from a designated road or highway would likely cause similar or reduced visual impacts than the Proposed Project because floodplain modification actions would occur in less populated agricultural areas. Changes in land forms for floodplain modifications would be less likely to interfere with scenic vistas or views of scenic resources that are visible from a designated road or highway with Alternative 2 than for the Proposed Project. Dam operations would not substantially change scenic vistas or scenic resources that are visible from a designated road or highway. Impacts on scenic vistas or scenic resources that are visible from a designated road or highway from rock stockpiling would be the same with Alternative 2 as with the Proposed Project, as would temporary and permanent impacts on these resources from implementation of Delta enhancement projects.

Significant construction-related impacts on scenic resources that are visible from a scenic vista or designated road or highway from Alternative 2 would be more than under the Proposed Project, because Alternative 2 would involve more construction (so more projects with construction equipment visible from a scenic vista or designated road or highway). Alternative 2 would have more long-term operational impacts on scenic resources because a greater number of new facilities of the type that generate impacts on scenic vistas or views from designated roads or highways would be constructed or installed (e.g., more permanent structures such as wells, ocean desalination, wastewater treatment and water recycling facilities, and conveyance including pumps). Ecosystem restoration and flood risk reduction actions would have fewer construction-related impacts than the Proposed Project but the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be more projects constructed and operated, significant impacts on scenic resources that are visible from a scenic vista or designated road or highway with Alternative 2 would be **more than** under the Proposed Project.

Compared to existing conditions, implementation of Alternative 2 on scenic vistas or scenic resources that are visible from a designated road or highway would be **significant**.

#### 8.4.7.1.3 Impact 8-3: New Sources of Substantial Light or Glare

Under Alternative 2, there would be more construction and operation of groundwater, ocean desalination, and recycled water facilities, potentially resulting in a greater number of temporary and permanent light and glare impacts compared to the Proposed Project. Construction and operations of the surface water storage projects named in the Delta Plan would not occur, reducing light and glare impacts in these areas. However, light and glare impacts would be located in the Tulare Basin instead with Alternative 2. There would be fewer light and glare impacts from Delta ecosystem restoration projects with Alternative 2 than for the Proposed Project because fewer Delta ecosystem restoration projects would be implemented. Changes in flow criteria that would be emphasized with Alternative 2, would have no light and glare impact and, therefore, would have fewer light and glare impacts than the Proposed Project.

A similar number of water quality improvement projects would be implemented with Alternative 2, but there would be more wastewater treatment and agricultural runoff facilities than there would be with the Proposed Project. Therefore, there would be more construction- and operations-related light and glare impacts because there would be more of these facilities than with the Proposed Project.

Because flood risk management under Alternative 2 would emphasize floodplain expansion and dam operations more than the Proposed Project, fewer potential light and glare impacts would be expected from floodplain expansion than from levee construction because construction would occur near urban areas and would not require 24-hour construction. Dam operations would not introduce new sources of light or glare. Similarly, rock stockpiling would not introduce light and glare because nighttime construction would not be required. Implementation of Delta enhancement projects under Alternative 2 would result in the same light and glare impacts with Alternative 2 as would occur with the Proposed Project.

There would be more construction-related light and glare impacts with Alternative 2 than with the Proposed Project because there would be a greater number of projects that could require 24-hour construction. More facilities that would require nighttime security lighting (e.g. wells, ocean desalination, and recycled and stormwater treatment facilities) would be in operation with Alternative 2 than with the Proposed Project. Overall, significant light and glare impacts related to Alternative 2 would be **more than** under the Proposed Project.

Compared with existing conditions, implementation of Alternative 2 would result in light and glare impacts that would be **significant**.

### *8.4.7.2 Mitigation Measures*

Mitigation measures for Alternative 2 would be the same as those described in Sections 8.4.3.6.1 (Mitigation Measure 8-1), 8.4.3.6.2 (Mitigation Measure 8-2), and 8.4.3.6.3 (Mitigation Measure 8-3) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 8-1, Substantial Degradation of Visual Qualities; 8-2, Adverse Effects on Scenic Vistas and Scenic Resources; and 8-3, New Sources of Substantial Light or Glare, to a less-than-significant level for Alternative 1A, this potential impact is considered significant and unavoidable**.**

## 8.4.8 Alternative 3

As described in Section 2A, Proposed Project and Alternatives, the water supply reliability projects and actions under Alternative 3 would be similar to those of the Proposed Project, although there would be less emphasis on surface water projects. Ecosystem restoration (floodplain restoration, riparian restoration, tidal marsh restoration, and floodplain expansion) would be limited in extent when compared to the Proposed Project, and focused on publicly owned lands, especially in Suisun Marsh and the Yolo Bypass. There would be more ecosystem stressor management actions (e.g., programs for water quality, water flows) and more management of nonnative invasive species. Water quality improvements would be the same as for the Proposed Project.

Actions under Alternative 3 to reduce flood risk would not include setback levees or subsidence reversal but would result in greater levee modification/maintenance and dredging relative to the Proposed Project. Reservoir reoperation and rock stockpiling would be the same as for the Proposed Project, as would activities to protect and enhance the Delta as an evolving place.

#### 8.4.8.1.1 Impact 8-1: Substantial Degradation of Visual Qualities

Under Alternative 3, there would be the same construction and operation of groundwater, ocean desalination, and recycled water facilities, resulting in the same number of temporary and permanent impacts on visual resources compared to the Proposed Project. Fewer construction and operations of the surface water storage projects named in the Delta Plan would occur with this alternative, potentially reducing the number of impacts on visual resources. Fewer impacts on visual resources from Delta ecosystem restoration projects would be expected with implementation of Alternative 3 than from the Proposed Project because there would be fewer Delta ecosystem restoration projects implemented. To the extent that ecosystem restoration projects adversely affect visual resources, these impacts would be focused on publicly owned lands primarily in Suisun Marsh and Yolo Bypass.

The same number and types of water quality improvement projects would be implemented with Alternative 3. Therefore, there would be the same construction- and operations-related impacts on visual resources with this alternative as with the Proposed Project.

Flood risk reduction projects described in Section 8.4.3.4.4, including construction of setback levees in the Delta, may be less likely under Alternative 3 because flood risk management would emphasize modification of existing levees, dredging, and dam operations. Impacts on visual resources from levee repairs and modification of existing levees would likely result in greater visual impacts compared to the Proposed Project because these actions would occur in more populated levee-protected urban areas. Impacts on visual resources from dredging, both waterside barge operations and landside scoop operations, would be the same in type and possibly more in number with Alternative 3 than with the Proposed Project. These impacts on visual resources would be temporary construction-related impacts that would be similar and possibly greater in significance than the Proposed Project. Dam operations would not substantially change the visual environment. Temporary impacts on visual resources from rock stockpiling would be the same with Alternative 3 as with the Proposed Project, as would temporary and permanent impacts on visual resources from implementation of Delta enhancement projects.

Significant construction-related impacts on visual resource from Alternative 3 would be about the same as under the Proposed Project, because Alternative 3 involves approximately the same amount of construction (so a similar number of projects with construction equipment degrading the visual character of a site). Alternative 3 would have about the same long-term operational impacts on visual resources because a similar number of new facilities of the type that generate impacts on visual resources would be constructed or installed (e.g., a similar number of permanent structures wells, ocean desalination, recycled

wastewater and stormwater facilities, water treatment plants, municipal stormwater treatment plants and conveyance including pumps). Ecosystem restoration and flood risk reduction actions would have about the same construction-related impacts as the Proposed Project and the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be a similar number of projects constructed and operated, significant impacts on visual resources with Alternative 3 would be the **same as** under the Proposed Project.

Compared to existing conditions, the construction- and operations-related impacts on visual resources under Alternative 3 would be **significant**.

#### 8.4.8.1.2 Impact 8-2: Adverse Effects on Scenic Vistas and Scenic Resources

Under Alternative 3, there would be the same construction and operation of groundwater, ocean desalination, and recycled water facilities, resulting in the same number of temporary and permanent impacts on scenic vistas and scenic resources that are visible from designated roads and highways compared to the Proposed Project. Fewer construction and operations of the surface water storage projects named in the Delta Plan would occur with this alternative, potentially reducing the number of impacts on scenic vistas and scenic resources that are visible from designated roads and highways. Fewer construction-related impacts on scenic vistas and scenic resources that are visible from designated roads and highways from Delta ecosystem restoration projects would be expected with implementation of Alternative 3 than from the Proposed Project because there would be fewer floodplain restoration, riparian restoration, tidal marsh restoration, and floodplain expansion Delta ecosystem restoration projects. To the extent that construction of ecosystem restoration projects adversely affect scenic vistas and scenic resources, these impacts would be focused on publicly owned lands primarily in Suisun Marsh and the Yolo Bypass. The same number and types of water quality improvement projects would be implemented with Alternative 3. Therefore, there would be the same construction- and operations-related impacts on scenic vistas and scenic resources that are visible from designated roads and highways with this alternative as with the Proposed Project.

Flood risk reduction projects described in Section 8.4.3.4.4, including construction of setback levees in the Delta, would be less likely under Alternative 3 because flood risk management would emphasize modification of existing levees, dredging, and dam operations. Impacts on scenic vistas and scenic resources that are visible from designated roads and highways from levee repairs and modification of existing levees would be likely to result in similar visual impacts as the Proposed Project because these actions would occur in more populated levee-protected urban areas. Impacts on scenic vistas and scenic resources that are visible from designated roads and highways from dredging, both waterside barge operations and landside scoop operations, would be the same in type and possibly more in number with Alternative 3 than with the Proposed Project. These impacts on scenic vistas and scenic resources would be temporary construction-related impacts that would be similar and possibly greater in significance than the Proposed Project. Dam operations would not substantially change the visual environment. Temporary impacts on scenic vistas and scenic resources that are visible from designated roads and highways from rock stockpiling would be the same with Alternative 3 as with the Proposed Project, as would temporary and permanent impacts on scenic vistas and scenic resources from implementation of Delta enhancement projects.

Significant construction-related impacts on scenic vistas or views from designated roads or highways from Alternative 3 would be approximately the same as the Proposed Project, because Alternative 3 would involve a similar amount of construction (so a similar number of projects with construction equipment visible from a scenic vista or designated road or highway). Alternative 3 would have about the same long-term operational impacts on scenic resources because a similar number of new facilities of the type that generate impacts on scenic vistas or views from designated roads or highways would be constructed or installed (e.g., a similar number of permanent structures wells, ocean desalination, recycled

wastewater and stormwater facilities, water treatment plants, municipal stormwater treatment plants and conveyance including pumps). Ecosystem restoration and flood risk reduction actions would have similar construction-related impacts as the Proposed Project and the same long-term operational impacts because operations would involve a similar number of a few small permanent structures.

Overall, because there would be a similar number of projects constructed and operated, significant impacts on scenic resources that are visible from a scenic vista or designated road or highway with Alternative 3 would be the **same as** under the Proposed Project.

Compared with existing conditions implementation of Alternative 3 construction- and operations related impacts on scenic vistas and resources that are visible from designated roads or highways would be **significant**.

#### 8.4.8.1.3 Impact 8-3: New Sources of Substantial Light or Glare

With Alternative 2, there would be the same amount and types of construction and operation of groundwater, ocean desalination, and recycled water facilities, resulting in the same light and glare impacts compared to the Proposed Project. Fewer surface water storage projects named in the Delta Plan would be constructed and operated, thereby reducing light and glare impacts in these areas. There would be fewer light and glare impacts from Delta ecosystem restoration projects with Alternative 3 than with the Proposed Project because there would be fewer Delta ecosystem restoration projects implemented.

A similar number of water quality improvement projects would be implemented with Alternative 3, but there would be more wastewater treatment and agricultural runoff facilities than there would be with the Proposed Project. Therefore, there would be more construction- and operations-related light and glare impacts because there would be more of these facilities than with the Proposed Project.

Because flood risk management under Alternative 3 would emphasize modifications to existing levees, dredging, and dam operations more than the Proposed Project, a smaller number of potential light and glare impacts would be expected than with the Proposed Project because setback levees would not be constructed. The significance of light and glare impacts with Alternative 3 is expected to be similar to the Proposed Project because levee repairs and modifications would occur near urban areas and could require 24-hour construction. Dam operations would not introduce new sources of light or glare. Similarly, rock stockpiling would not introduce light and glare because nighttime construction would not be required for either activity. Implementation of Delta enhancement projects under Alternative 3 would result in the same light and glare impacts with Alternative 3 as would occur with the Proposed Project.

There would be approximately the same construction-related light and glare impacts with Alternative 3 as with the Proposed Project because there would be a similar number of projects that could require 24-hour construction. A similar number of facilities that would require nighttime security lighting (e.g. wells, ocean desalination, and recycled and stormwater treatment facilities) would be in operation with Alternative 3 as with the Proposed Project. Overall, significant light and glare impacts related to Alternative 3 would be the **same as** the Proposed Project.

Compared to existing conditions light and glare impacts associated with Alternative 3 would be **significant**.

### *8.4.8.2 Mitigation Measures*

Mitigation measures for Alternative 3 would be the same as those described in Sections 8.4.3.6.1 (Mitigation Measure 8-1) , 8.4.3.6.2 (Mitigation Measure 8-2), and 8.4.3.6.3 (Mitigation Measure 8-3) for the Proposed Project. Because it is not known whether the mitigation measures listed above would reduce Impacts 8-1, Substantial Degradation of Visual Qualities; 8-2, Adverse Effects on Scenic Vistas and Scenic Resources; and 8-3, New Sources of Substantial Light or Glare, to a less-than-significant level for Alternative 1A, this potential impact is considered significant and unavoidable.

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